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FALL 1982
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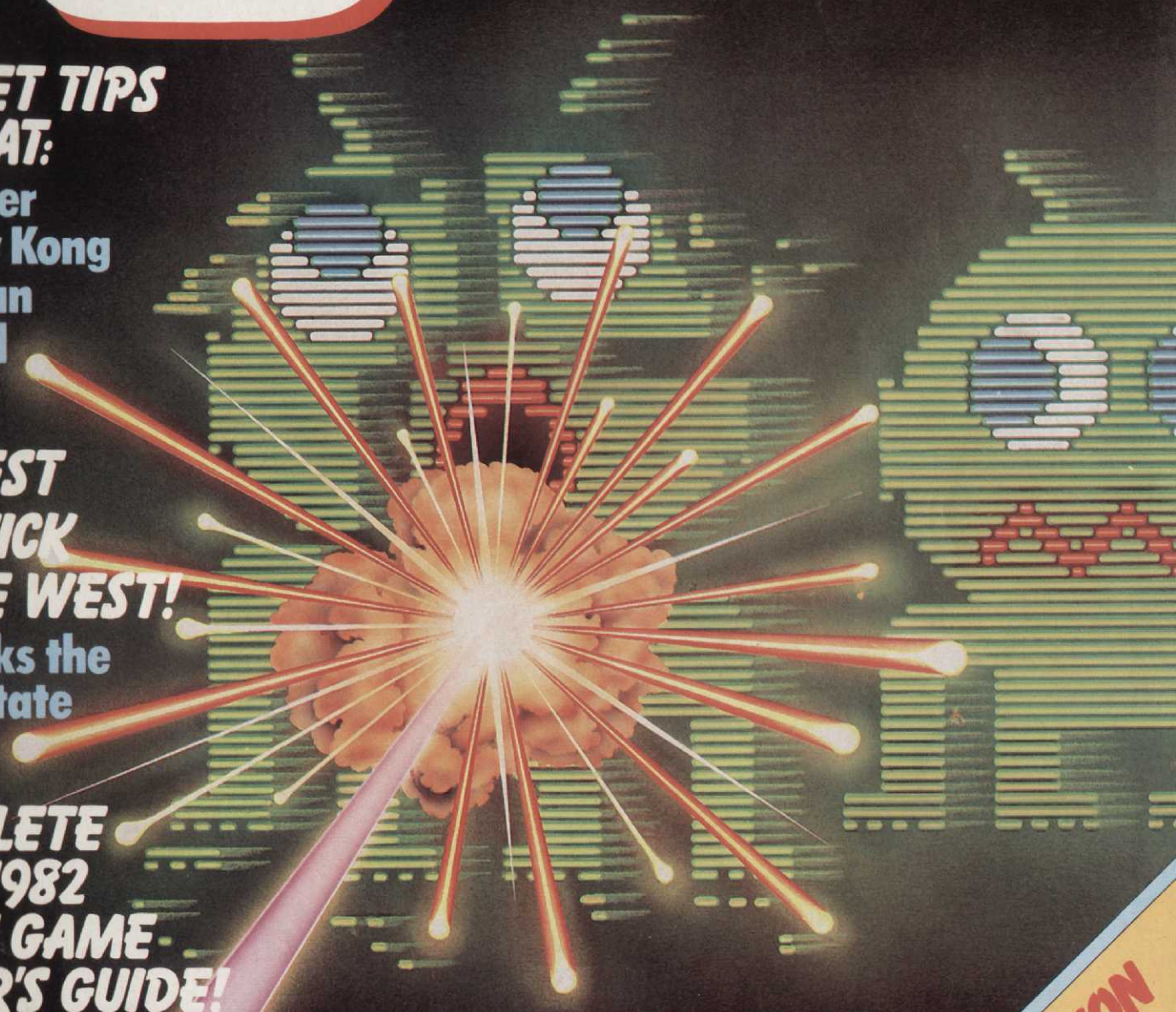

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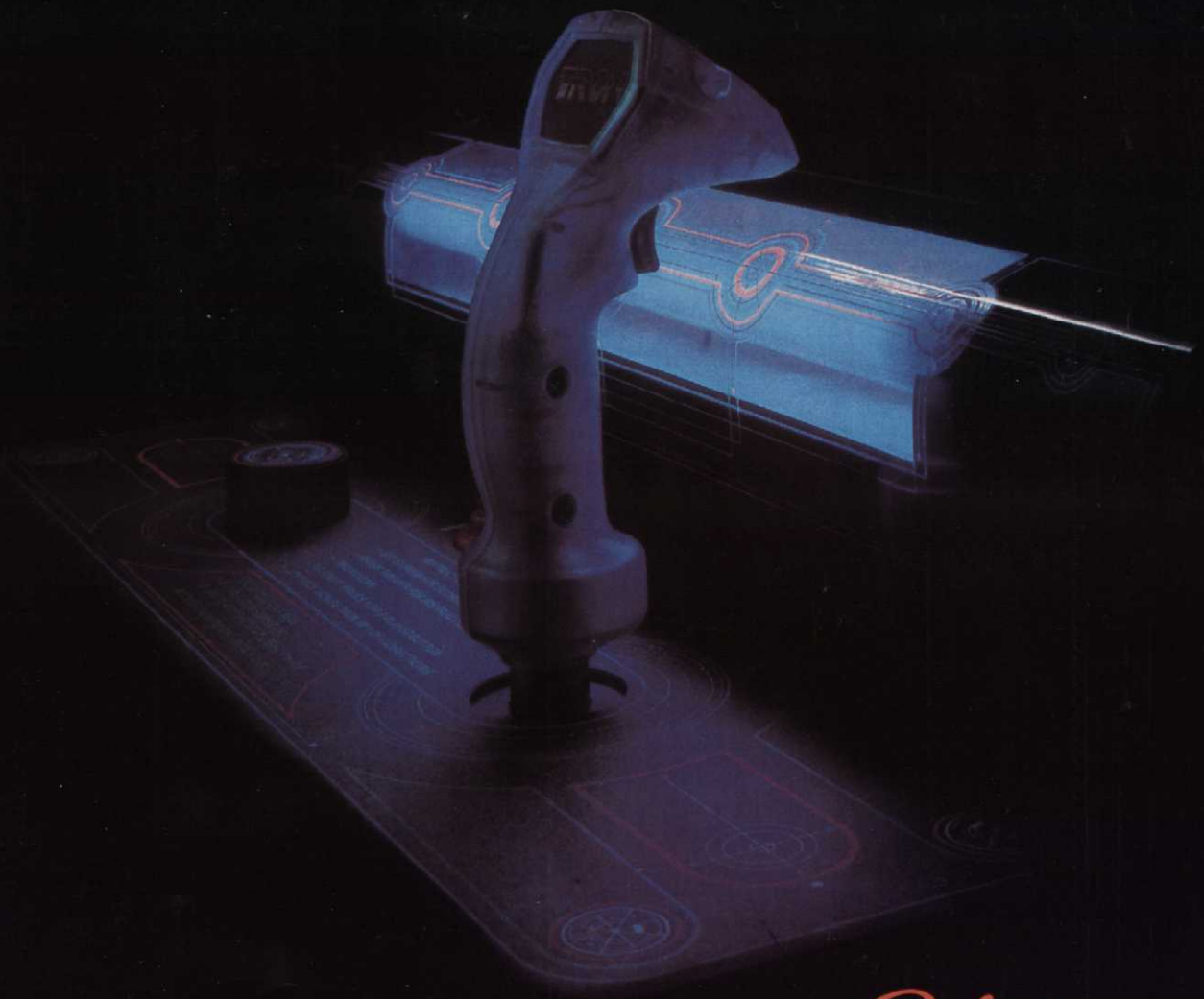

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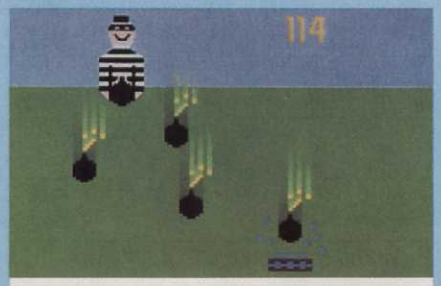

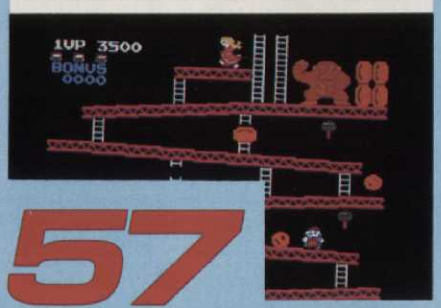

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Different people have different needs. We'll tell you what is the best video game system for you, and which games you'll most likely enjoy playing on it.

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Cover illustration by Punz Wolff

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HOME GAME GOSSIP

Speak softly and carry a big joystick, because after this summer's **Consumer Electronics Show** in Chicago, you've got your hands full... Rumor has it that **Odyssey's K.C. Munchkin** sold more cartridges in a month than all the other **Odyssey** carts combined did in 1981. That is, before it got pulled off the market because of the **Atari Pac-Man** lawsuit... and **Pac-Man,** by the way, sold more in its first month than **Space Invaders** did in a year... That's why **Warners** has made more $$ from **Pac-Man** than **20th Century Fox** made from **Star Wars** ...and *that's* why **Fox** is now making **Atari** software! Look for **Turmoil,** it's wild...

Coleco may blow this whole industry open. **ColecoVision** is excellent and you can play your **Atari** carts on it if you buy the "expansion module." But they're starting to get very iffy on the **Intellivision** adapter. It may never happen.

Our nominations for funniest games of the year go to **Apollo's Lost Luggage** (catch flying suitcases or they open and your underwear falls out), **Tigervision's Jawbreaker** (player moves a set of teeth and has to eat candy and brush itself before all the teeth fall out), **Activision's MegaMania** (you get attacked by hamburgers, radial tires, bow ties and flying swiss cheeses), and **Arcadia,** with the best title of the year, **Communist Mutants From Space**...

Atari owns home **Pac-Man,** agreed. But what about **Ms. Pac-Man?** She wasn't designed by **Namco** like her boyfriend. **Bally** owns the coin-op rights and they just made an agreement with **CBS** to make home versions of **Bally** games by Christmas. Will **Mr.** and **Ms. Pac-Man** be separated?... **Loni Anderson** has nothing to do with video games, but I just wanted to put her name in **big black letters**...

Video games go to the movies—**Parker Brothers** has landed **Jaws, James Bond,** and **The Empire Strikes Back. Astrocade** owns **Conan the Barbarian** (a dubious honor). **George Lucas'** Lucasfilms has just signed an agreement with **Atari** to make games, and **Steven Speilberg** says he's interested too. Next thing you know we'll have a **Kramer Versus Kramer** video game (you and your wife fire laser blasters at each other to win custody of the kid)...

Welcome to the Consumer Electronics Show

Mattel has been making more comparisons with **Atari** and decided to start making carts to fit the **VCS** too. Look for their **"M System"** this fall... The **GCE Vectrex** system was displayed at CES. It's great! Real arcade action... **Imagic** is the first company to make games for **Atari, Intellivision** *and* **Odyssey.** No one is safe from a **Demon Attack** anymore!... **Astrovision,** formerly **Bally Arcade,** has changed its name again, to **Astrocade.** Let's hope they stay with this one—they have a good system and games, but you can't find them in the phone book... Most inexpensive system on the market is **Emerson's Arcadia 2001** (no, it does not double as an air conditioner) for a scant $99... In **Telesys'** new **Fast Food game,** they pack an **Alka Seltzer** in each box. It figures... Mr. Mouth gets "calorie points" for everything he eats —Tip for home **Pac-Man**—the ghosts always exit their base on the right side...

Can't afford projection TV but want BIG aliens? Think about **Beamscope,** an acrylic frasnel lens that you put over your screen to magnify the image. They're as little as $60 and give a good sharp image as long as you sit directly in front of it... In **Bandai's** new **Air Traffic Controller,** the manufacturer says that if the tension becomes unbearable, players have the option of going out on strike. Should we believe that?... We hear that you can get rapid fire on **Space Invaders** if you turn the console off and on while pushing the game reset button. Will somebody please try that? We're afraid to bust our system... **Apollo** is planning to make carts for both **Intellivision** and the **Atari 5200**...

Will the arcades die? Home versions are getting so good (especially **Coleco's Zaxxon** and **Donkey Kong**), you've gotta wonder if the coin-ops can keep topping them ...**Activision** (which, in addition to their great games, has just about the nicest people in the world working for them) is starting a **Greatest American Hero** contest. Players will compete for high scores on **Star Master** to win a trip to Hollywood and a day on the set of the TV show. **Activision** has also just signed six new designers—**Kelvin Kalcut, Van Rizzin, Paul Willson, Matt Hubbard, Gary Kitchen** and **Dan Kitchen.** Everything but the kitchen sink, apparently...

Rejoice! Do you long for a **Trac-Ball** for your **Missile Command? WICO** has just started making one. It works beautifully and sells for $70... **Imagic** has started its **"Numb Thumb" Club.** Send them $2 to: *P.O. Box 2055, Saratoga, CA 95070* and they'll send you a poster and a subscription to *Numb Thumb News,* the company newsletter... On the way back from the **Consumer Electronics Show,** I sat on the bus next to a scruffy teenager in a t-shirt, blue jeans and sneakers. It turned out to be **Mark Turmell,** game designer for **20th Century Fox.** He designed **Sneakers** and **Fast Eddie** and the kid hasn't even finished college yet! Says he's working on an incredible new game, but he couldn't even tell me the name of it...

Seems like you can't turn around without six new software companies starting up. Watch for **CommaVid (Mission Omega, Mines of Minos, Cosmic Swarm** and **Room of Doom,** all for **Atari**). **Data Age (Warp Lock, Snake,** and **Survival Run,** all for **Atari**), **Tigervision (King Kong, Jawbreaker, Threshold, River Patrol** and **Marauder,** all for **Atari**), and **Spectravision (Gangster Alley, Planet Patrol, Cross Fire, China Syndrome** and **Tape Worm,** all for **Atari**). And, of course, **Activision, Apollo, Imagic,** and **U.S. Games**... Whew! Is this all happening too fast for you? Well, if you think the home video game market is all very confusing and frightening and crazy, and exciting and wonderful... you're right.

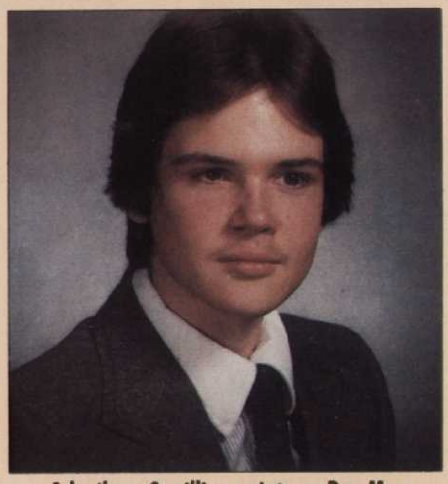
ARCADE PARADE

As we go to press, the top ten games are **Zaxxon, Turbo, Robotron, Ms. Pac-Man, Donkey Kong, Dig Dug, Stargate, Pac-Man, Galaga, and Centipede,** , according to *Playmeter Magazine,* one of the trade journals your arcade owner reads... Video games continue to cause the decline and fall of Western civilization, except in **Taiwan** and the **Philippines**, where they are banned entirely. Philippine **President Marcos** said, "...the operation...of video machines... tends to corrupt the children ... and encourage juvenile delinquency, drug addiction, petty thievery, lying and the gambling instinct which may lead to idleness, economic waste and dislike for work." And he should know... **The Who** brought a **Space Invaders** game with them on every stop of their last American tour...

The Who—nuts for Space Invaders

New games to watch for—**Eyes** (Rock-ola), **Naughty Boy** and **Boxing Bugs** (Cinematronics), **Mission-X** (Data East), **Triple Punch** (Thomas), **Robby Roto** (Midway), Tazzamania (Stern), Dambusters (Game-A-Tron), and **Red Clash** (Sun Tronics)... We hear the **Atari** engineers like practical jokes—some of them implanted electromagnets in the ears of their boss' tropical fish to make them turn upside down when he answered the phone... Where do the manufacturers go to test their new games? **That's Entertainment,** an arcade in Glen Burnie, **Maryland**, is the official test site for eleven coin-op manufacturers... **Atari** has announced some new high scores. **Leo Daniels** from **North Carolina** hit **40,010,910** on **Asteroids, Franz Lanzinger** from **California** scored **2,999,999** points on **Centipede**, and **Jay Nelson** from **West Virginia** racked up **512,674** on **Tempest.** If you can beat any of those, let us know... Things are not looking good for pinball. After a lot of early excitement with **Hyperball** by **Williams,** "favorable player interest has not continued," according to **Mike Stroll. Hyperball** has been discontinued...

Arthur Asa Berger, professor of broadcast communications at **San Francisco State**, compares playing video games with masturbation. He says, "As we play these games we are, in effect, playing with ourselves." It's tempting, but we have no comment... **New York** street kids have invented their own **Pac-Man**—four kids chase one kid until he touches, say, a telephone pole. Then he can chase them ...



Schwibs—3 million points on Pac-Man

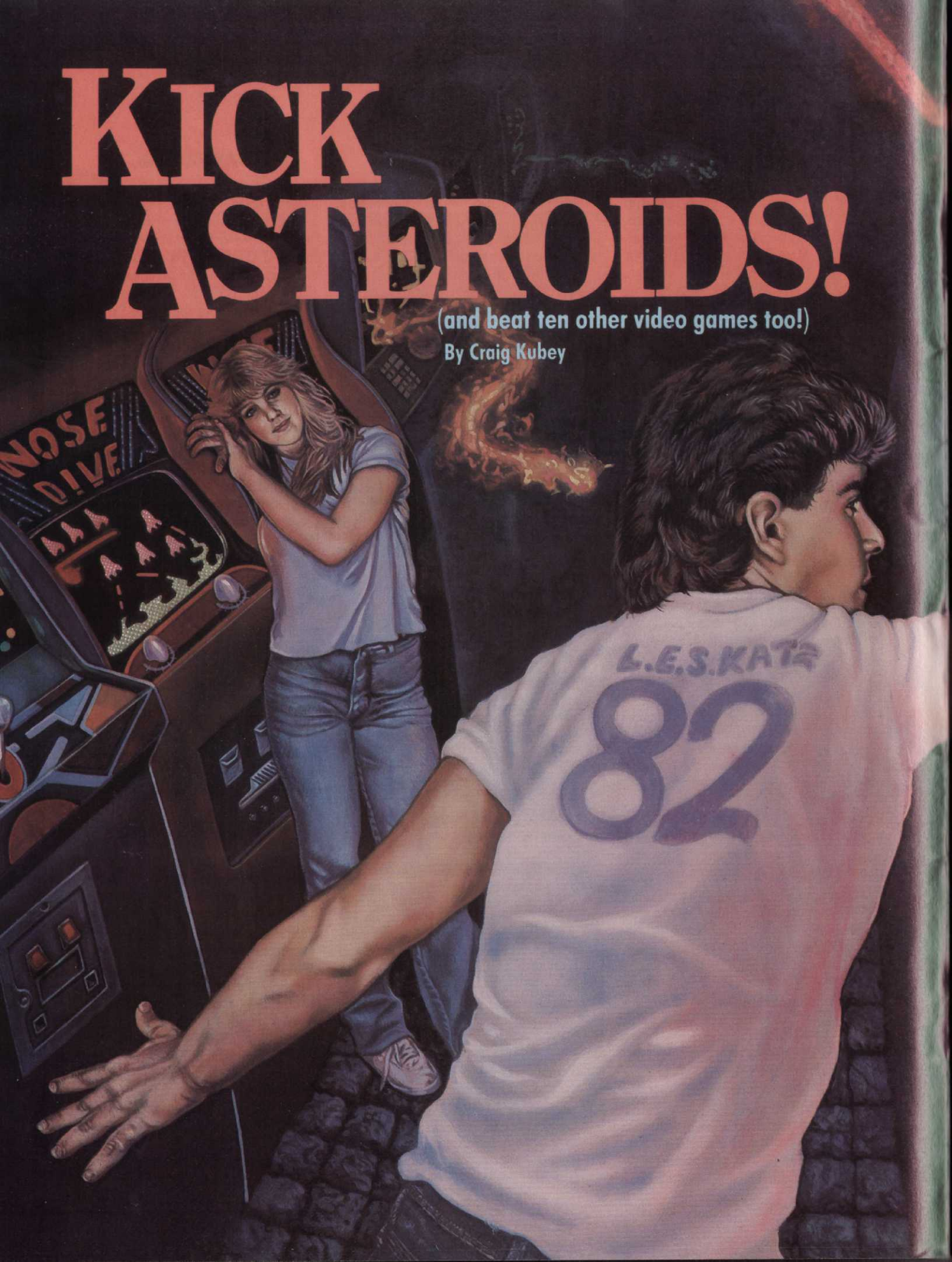
If you're awesome and want everyone to know it, contact the **National Scoreboard.** Each week they make a computer printout of the top scorers in the country. Contact them at: *Twin Galaxies National Scoreboard, 226 E. Main St., Ottumwa, IA 52501* ... **Rock-ola** is not a corny name for a video game company. It was named by its founder **David C. Rockola** in 1934... **Eugene Jarvis**, designer of **Defender**, said in *Playboy* recently that when he thought up the game, he had the name, the aliens, and the men walking around, but no concept to tie them all together. "The only thing I knew was that we were going to call the game **Defender**, so we had to defend something," he said...

That three-dimensional effect you get on **Zaxxon** is caused by projecting the image on the screen at a slant... You know, you high scorers who are putting up obscene messages on **Stargate** are ruining it for the rest of us. The mother of an eight-year-old girl is trying to get rid of video games in **Garland, Texas**, because her daughter was "intently battling intergalactic invaders when the screen suddenly displayed a message asking her in no uncertain terms if she wanted some companionship that night," according to the *Austin American Statesman*... You don't see too many adventure games in the arcades, but **Sega/Gremlin** just might change that with **005.** You have to guide agent 005 through a street, warehouse, skating rink and up in a helicopter to receive your secret attache case... After eight hours, even **Pac-Man** calls it quits. **Eric Schwibs**, 18, racked up nearly **three million points** in **Patrick's Pub** in **Orchard Park, N.Y.** recently. At that point the machine blew its mind—half the screen showed the **Pac-Man** board and the other half displayed random numbers and gibberish. Schwibs after the bout: "Last night was my last game." To people who say all the arcades should be shut down because drugs are sold there, we say—Drugs are sold in our schools too. Should we close *them* down?

KICK ASTEROIDS!

(and beat ten other video games too!)

By Craig Kubey



Are you tired of embarrassingly low scores? Are you tired of getting twenty-five second games for your twenty-five cents? Are you tired of being publicly humiliated by people who can't even read or write? Then it's about time you learned a thing or two about video games.

Each video game presents its own challenges. Some games are excruciatingly hard and discourage even skilled players. Others can be played successfully on your first turn. Still, happily, there are many strategies that help the player in most games. All serious video players know these rules. I call them...

The Bylaws of The Awesome Player Society

Illustration by Les Katz

FROM THE WINNERS' BOOK OF VIDEO GAMES
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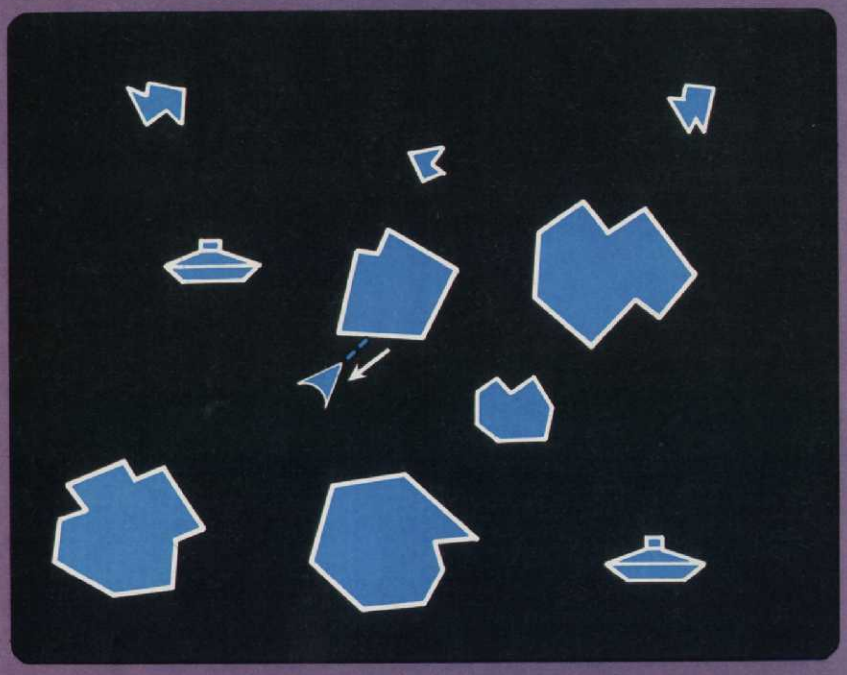
Secret Tip #1

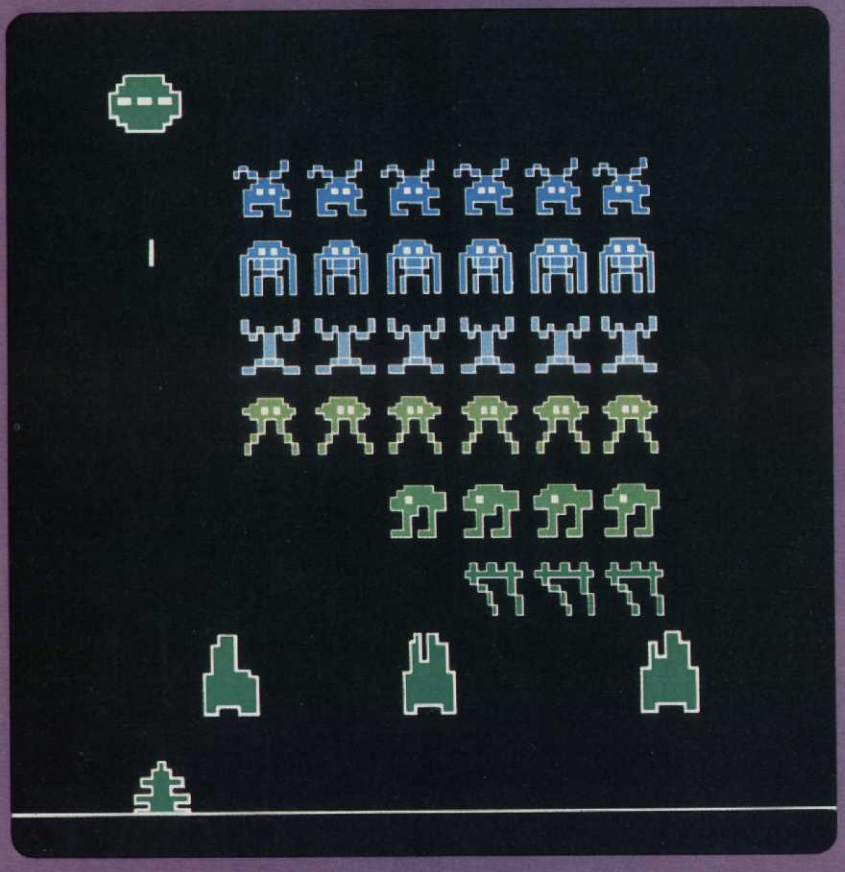
ASTEROIDS



As soon as you go into hyperspace, fire like crazy! When you reappear, not only will you hit some rocks that might have crashed into you, but you'll also be able to immediately find your new position on the screen.

Secret Tip #2

SPACE INVADERS



Do you know the 23/15 rule? At the beginning of each board, if you hit the Mother Ship with your 23rd shot, you get 300 points. After 14 more shots, hit another Mother Ship and get 300 more points. Count your shots!

Illustrations by Nina Wallace

"...wipe out all the Landers before pigging out on the points from one Pod..."

Bylaw 1: ***Be Cool.*** Video game play can cause extreme stress. The anxiety it generates can be like that experienced by the boxer fighting Larry Holmes for the heavyweight championship. Destruction is constantly imminent, and split-second decisions must constantly be made, taking into account a dozen factors at once.

To make these decision you must be calm and confident. Tell yourself you are better than those spaceships and missiles. Pretend you are Burt Reynolds. If you are basically just too anxious to be cool, enter psychotherapy. When you score 100,000 on Defender, you'll know it was worth it.

Bylaw 2: ***Defense! Defense!*** If you keep one word in mind, that word must be *defense.* Many players concentrate too much on destroying opposing forces and grabbing big points as fast as possible.

But concentrating on points is not the key to a high score. *They key is to survive.* If you stay alive, you can play forever, running up millions of points, even if you're the worst shooter in the arcade. But if you are destroyed quickly, you will get a low score even if you fire shots as precisely as Joe Montana fires footballs.

To play defensively you must pay primary attention to the chief threats to your existence. In Asteroids, be careful to evade the fire of the small saucer. In Defender, do everything you can to keep the Landers from turning your last man into a Mutant. In Pac-Man, don't be so hungry to gobble up more dots that you make a video sandwich of yourself between two speeding monsters.

And don't just avoid these threats: In Asteroids, for instance, hit small, fast rocks that are rushing toward you before you bother with fat, slow ones that are drifting away. In Defender, wipe out the Landers before pigging out on the points from a single Pod.

Bylaw 3: ***Fire Furiously but Not Foolishly.*** An obvious sign of the new boy or girl on the video block is the slow firing of shots, lasers, and missiles. The beginner may blast off one shot every few seconds. The veteran, however, will look like an amphetamine-crazed bongo player, often banging out ten times as many shots in the same period.

There are many advantages to shooting rapidly: You have a chance to hit more targets and you can atone for shots that miss with shots that strike home. With multiple shots at the same target, even if you don't change your position between shots, there's also a good chance the target will move into your line of fire.

Still, don't waste your weapons. In many games you must save shots and bombs so you'll have enough for emergencies and for all the attack waves you'll face.

Bylaw 4: ***Pig Out When the Slop Is Handy.*** An occasional machine will offer you a free lunch (easy points for even the novice). In Defender, Smart Bomb and 1,000-point Pods when lots of them are stupidly floating around in the same place. In Asteroids, don't blast away every rock only to have a bigger rack of rocks drift onto the screen; instead, leave one or two rocks alone and hunt the 1,000-point saucer. In Missile Command, don't knock out the twenty-five-point ICBMs to defend cities that have already been vaporized; aim your missiles at the high-point Sputniks, planes, and smart missiles.

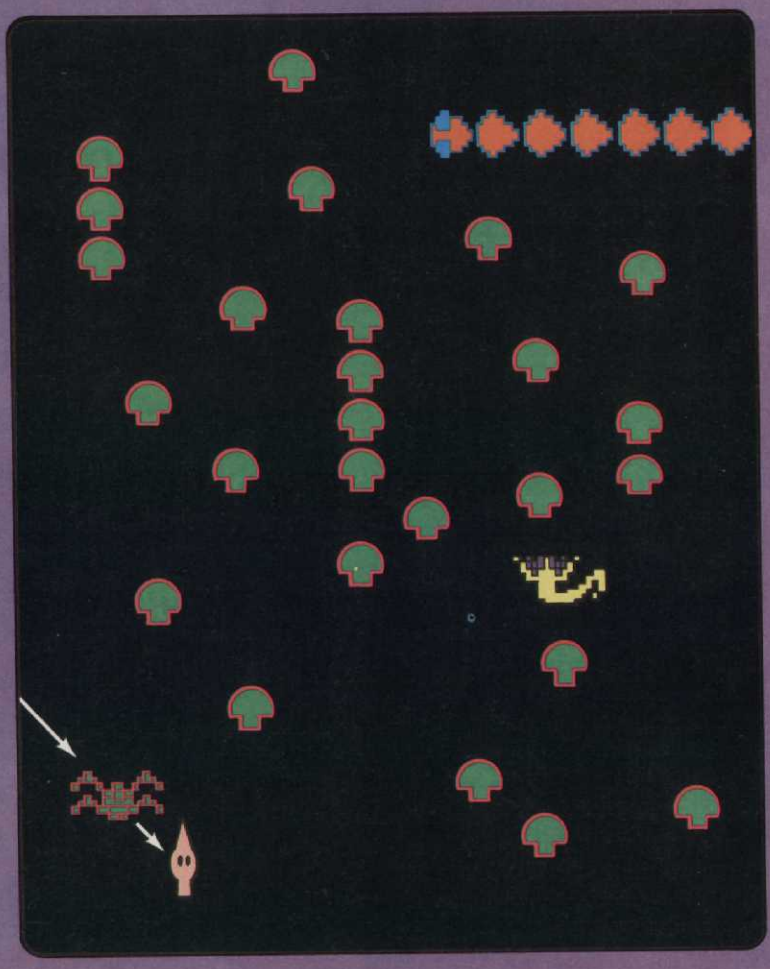
Bylaw 5: ***Not Too Much or Too Little, but Just Right.*** Know your weapons and escape mechanisms. The classic error of the Defender novice is to forget to use his Smart Bombs—which wipe out every enemy within a large area—before the game is over. Don't overuse your ultimate weapons either. Another error of the inexperienced Defender player is to use all his Smart Bombs early and have none left when they're most needed.

Similarly, use your escape devices when necessary but not on a whim. Hyperspace and Shields usually have their dangers as well as benefits. In Asteroids, for example, the player can escape any hazard by hitting the Hyperspace button and simply disappearing from the screen. But this comes with a certain risk: the player's ship will explode on return from Hyperspace about one in every four times the mechanism is used.

The basic rule of ultimate weapons and escape systems is never to use them when something else will keep you alive and always to use them when nothing else can save you.

Secret Tip #3

CENTIPEDE



The spider will always come out of the left or right sides. If there is no spider on the screen, don't stay too close to the edges. The spider can easily leap out and ambush you.

Bylaw 6: ***Be Ship-Centric.*** The more complex the game, the more enemy vehicles and weapons you must keep in mind. But keep your attention on yourself—the device on the screen that represents you. In Space Invaders, Galaxian, and many other games, it's the mobile Laser Base at the bottom of the screen. In Asteroids, Defender, and another large group of games, it's the spaceship in the center of the picture.

If you are represented by multiple devices (as in Missile Command, where you have up to six cities and up to three missile bases), never lose track of any of them. If you are represented by a single ship or base, never take your the object for more than a fraction of a second. Be ship-centric. A young woman at Albany Bowl in Albany, California, achieved perfect unity with her Asteroids vehicle. "I am the ship," she said.

Be confident you will wipe out lots of murderous enemies without constantly looking right at them. Peripheral vision is enough to keep your aim quite accurate, especially once you've developed a feel for video games.

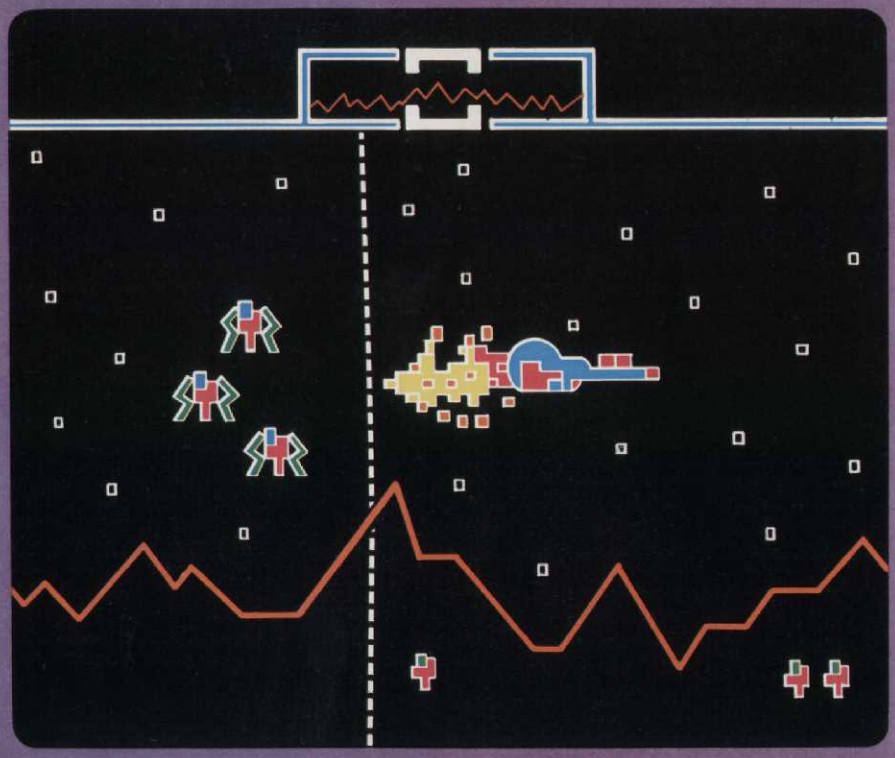
Bylaw 7: ***Practice Makes Less Imperfect.*** Nobody plays video games perfectly. Unless it's unplugged, any video machine will eventually beat any player. But any video player, however proficient, can get better.

Practice is not the same thing as unloading bags and bags of silver coins. How efficient your practice is depends on how you use that money.

To avoid playing like a newcomer it's a good idea as soon as you have picked a game to pour out a lot of money on it in a single day. Five dollars is a good ballpark figure. If you don't have $5 to spend, then

Secret Tip #4

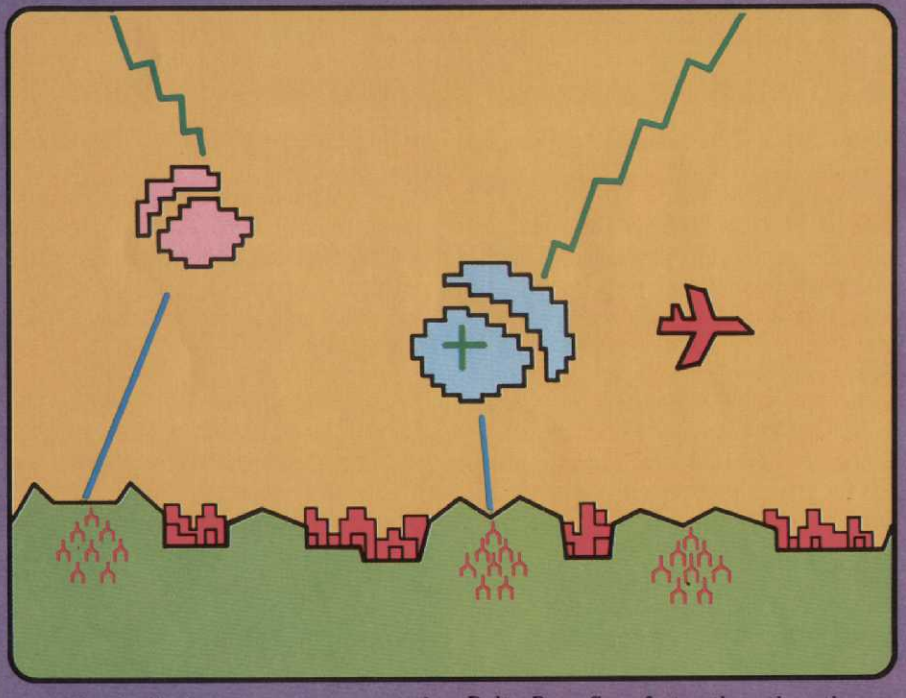
DEFENDER



Near the tallest mountain on the planet is an imaginary line, which Craig Kubey calls "the International Date Line." To the left of the line, mutants will pursue you. If you slip to the right of the line, they will try to go *around the planet* to get you. When you need a breather, head for the hills!

Secret Tip #5

MISSILE COMMAND



All missile bases are not created equal. You have three of them—Alpha Base, Delta Base and Omega Base. Delta Base fires faster than the other two, so if you're in a pickle, that's the one to hit.

"Study the game! When you hit something, does it die? Does it bust up? Does it change into another creature?"

watch $5 worth of the game played by other folks. Pay special attention to good players and to players who use novel techniques. Your long initial immersion in the game will allow its basic elements to sink in. Once these rudimentary aspects have become second nature, you can move on to difficult moves and start racking up serious points. Consider the tennis player: He's not going to look good as long as he still has to try hard to remember to hold the racket tightly and get back to the center of the baseline. Once those skills become second nature, however, he can start thinking about rushing the net and smashing overheads.

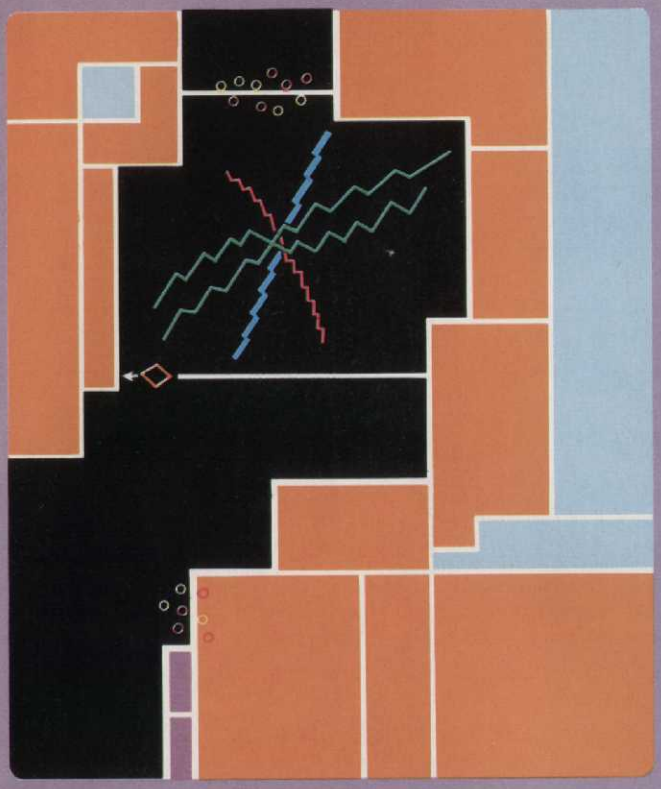
Equally important, playing a lot of games will sharpen you coordination in general and will improve the skills demanded by the game you seek to conquer. You'll learn to make your ship do what you want and you'll develop a sixth sense that warns you when a particular kind of enemy is about to approach and that guides your hand in the right motions to maneuver your ship and fire your weapons.

That is the obvious element of practice: to learn and improve skills. The less obvious aspect, very important but uncommonly seen, is to practice isolated techniques.

A football quarterback doesn't spend all his practice time in scrimmages: Instead, he practices taking the ball from the center, handoffs, screen passes, the long bomb; he even practices collapsing safely under the weight of three defensive linemen. The quarterback practices each of these skills over and over until he has mastered them. Similarly, the basketball player may spend an hour doing nothing but shooting free throws.

Secret Tip #6

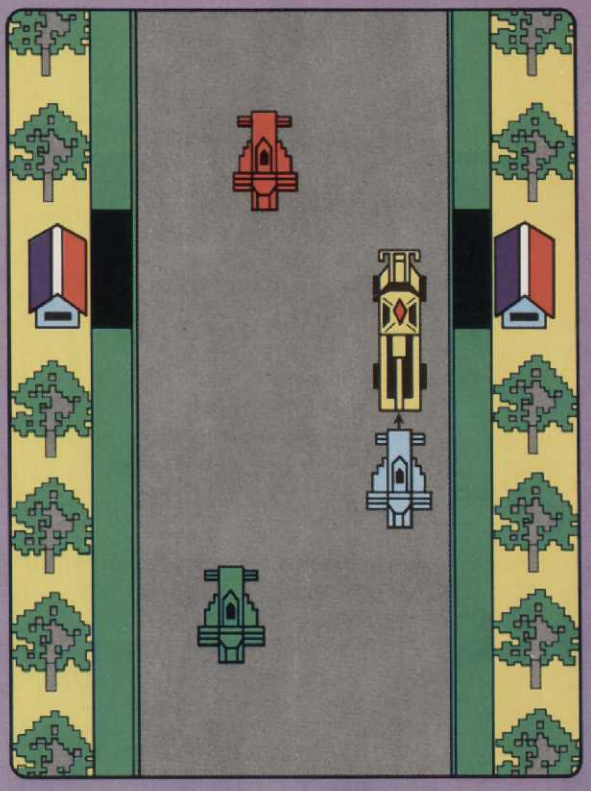
QIX



When you finish a board, you get 1000 points for every percentage point over 75 that you have enclosed. So work up to 73% or 74% and try to bite off a big chunk on your last box.

Secret Tip #7

MONACO GP



If you hear a siren, that means an ambulance is coming. After you maneuver out of its way, get behind it and let it blaze a trail for you through the other cars.

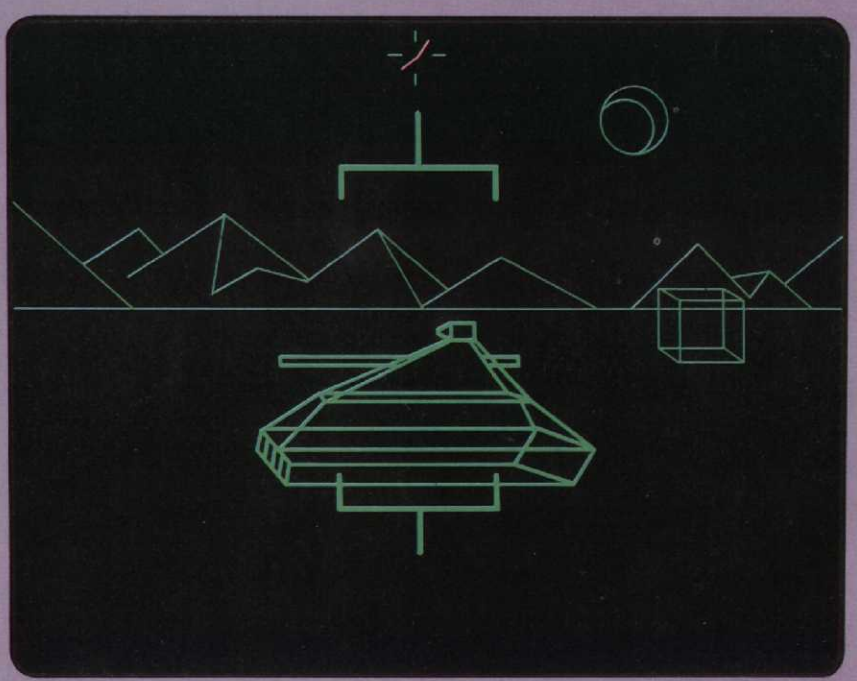
Just as the best way to learn a specific video game is to play it over and over, the best way to learn a specific video game technique is to use it over and over. In one game, concentrate on aiming your shots. In another, work on maneuvering your ship or ambushing the ememy by lurking in a particular part of the screen. In this sort of practice you will not get your best score, but you will be doing your best to improve your future scores.

Bylaw 8: ***Keep Your Mind in Mind*** Closely monitor your mental state. Try hard to concentrate throughout the game. A brief mental lapse can ruin an otherwise brilliant game. Concentration tends to be highest during the first and last games of a series on a single type of machine. During the first game the player generally is freshest and the game seems most novel. In the last game the player knows it is his last chance to do well before leaving the machine. You can use this first/last phenomenon to your advantage: Either play only two games at a time on each machine or tell yourself each game after the first is your last even if perhaps it isn't.

CONTINUED ON PAGE 28

Secret Tip #8

BATTLEZONE



Do not push *just* your left joystick or *just* your right one in order to evade the enemy. This only gives you the *illusion* of movement. A tank (which runs on treads) will just spin in place if you do this. To move, you just manipulate *both* joysticks.

BIG DADDY

Atari Founder Nolan Bushnell Is The Father of Video Games

By Steven Slon

Pinball is dead. And the man responsible for its death is an athletic-looking guy in his late thirties who sports a trim Vandyke beard and a mischievous grin. His name is Nolan Bushnell.

This is the guy that thought up the game we all remember as the FIRST ONE. That game was Pong. And to market Pong, he formed a tiny company whose name comes from a polite Samurai warning to one's opponent that he is about to be attacked: *Atari!*

Sure, Pong seems primitive now. Sure, we've all moved on to better things. But every video freak has to remember and respect Pong, just as he remembers and respects Edison's primitive phonograph. Without Pong, there'd be no Space Invaders, no Defender, no Pac-Man.

In fact, once Pong hit the market, pinball—that game of the ball bearings that worked on (snicker) *gravity*—just about dug itself a hole and crawled in. Poor Elton John, letting himself get photographed from an impossibly low angle, wearing stacked silver shoes, slapping clumsily at *electro—mechanical* flipper controls. If The Who had asked Nolan Bushnell, *he'd* have told them where the *real* action was.

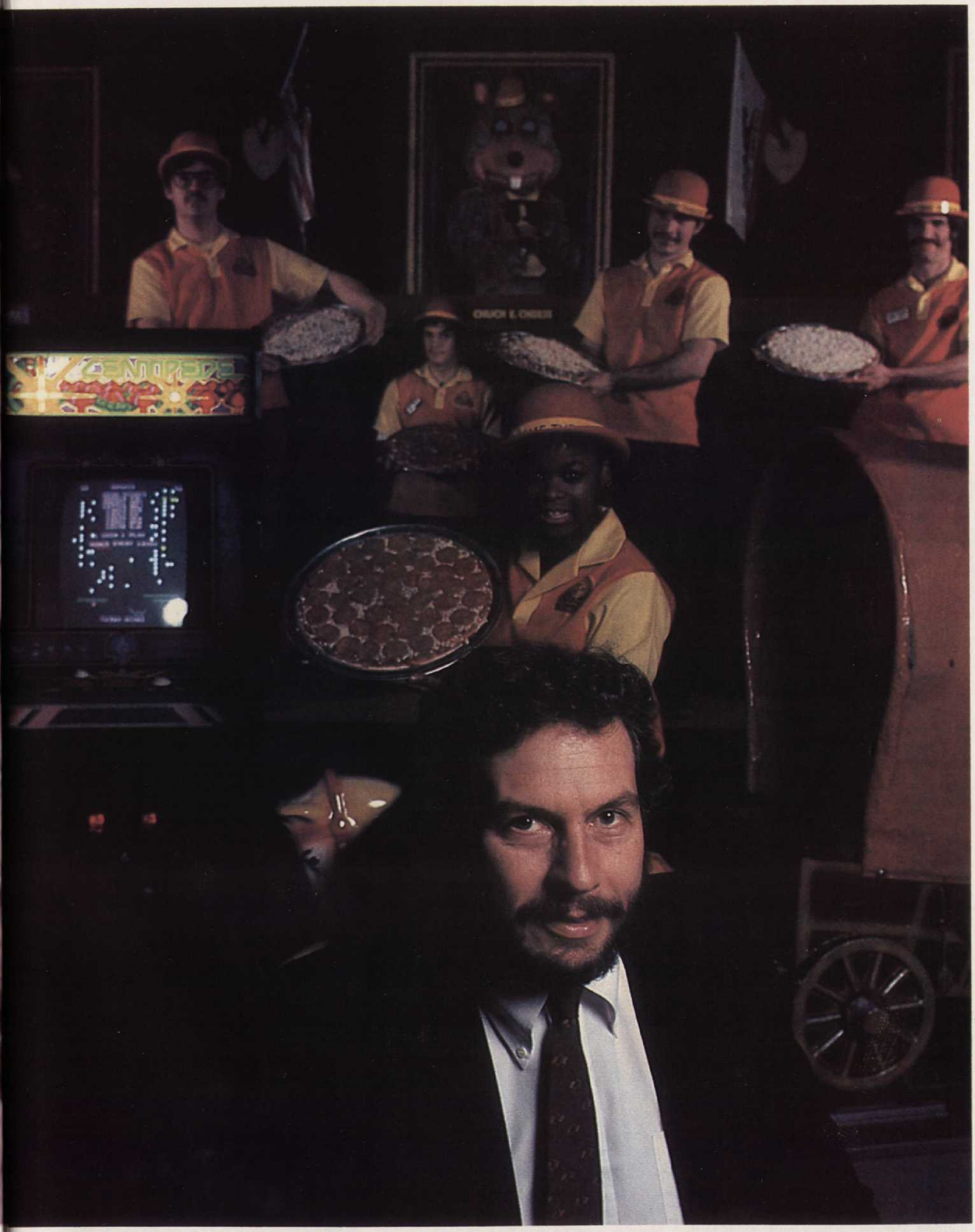
Who exactly is Nolan Bushnell—this grinning prophet of the video game? Well, actually he's not that different from you or me. Just an All-American lover of fun and games, carnivals and pizza-pie.

Bushnell had a proper middle-American upbringing in Ogden, Utah. His family was Mormons. His dad was a cement contractor; his mom a housewife. The young Nolan enjoyed monkeying around with his own amateur radio set, call letters: W7 DUK. Later he would earn pocket money repairing tv's, radios and washing machines. He seemed to have a knack for electrical and mechanical devices.

He showed a rare blend of mechanical talent with a love of sports. Nolan shot hoops for his high school team, and he loved the more intellectual games as well—he was on the debating team and played tournament chess.

In the early sixties Bushnell headed off to the University of Utah to study electrical engineering—the magical flow of electrons through wires. To support himself, he worked nights at an amusement park in Salt Lake City.

Nolan was fascinated with the carnival and the arcade games. He began to understand the needs of the carnival players. It seemed wrong to him to hustle teenage couples who strolled the midway into knocking over milk bottles with a baseball. But those forlorn lovers kept coming back for more, as if they were eternally search-



Photograph by Ted Thai /TIME Magazine

Bushnell at Pizza Time, home of dancing rats, pizza and video games. Is he the Walt Disney of the 1980's?

ing for a game they could really sink their teeth into.

Sci-Fi Fantasy

Back at school in the fall, Nolan tried out a new game, Space Wars, on the $8 million computer. It was some rocket/flying saucer space battle that had been cooked up in 1962 by a crazed visionary at MIT named Steve Russel. Wouldn't it be fantastic, thought Bushnell, if you could bring a game like that to the carnival midway? He recalls: "The problem was that it would take a heck of a lot of quarters to pay for an $8 million machine, so I just filed the concept away in the back of my mind."

A few years later, while Nolan was east at MIT getting his masters degree, the silicone computer chip was developed, as if in answer to his needs. This miracle chip—a cluster of miniature circuits on a piece of plastic smaller than a postage stamp—made computers get small. And it made them get cheap.

After Nolan finished school, he got a job in Sunnyvale, California with Ampex, the company that is best known for recording equipment, amplifiers and audio tape. His salary was decent for a guy just out of school in 1970: $12,000 a year. But Nolan was married and had a daughter already. His salary did not permit a champagne lifestyle. And Nolan wanted to be wealthy. *Very* wealthy.

At Ampex, he got to talking to a fellow employee named Ted Dabney about his ideas for video games that everyone could afford. Dabney was enthusiastic. They began tinkering with hardware on weekends in a an office/shop that Nolan had set up in his daughter's bedroom. The project grew. Pretty soon Nolan's daughter had to move out to the livingroom couch.

Electronic Octopus

Sure that they were on to something hot, Bushnell and Dabney quit their jobs at Ampex to devote full time to their project. Nolan's first idea was to hook up a number of terminals to one minicomputer. It would be a kind of electronic octopus with player terminals branching out like so many tentacles from a computer brain. But, though he kept adding more components and circuits, it just wasn't working.

Then, as if a silicone chip fell out of the sky and hit him on the head, the modern Newton emerged from the lab one day, bleary eyed, rubbing his sore temple, and shouting *Eureka!*—He could make individual free standing terminals with microprocessor technology! The minute the idea came to him, he recalls, "I worked it out and the economics were overwhelming."

In 1971, the first coin-op video game was born. Nolan dubbed it Computer Space—"A cosmic dogfight between a spaceship and a flying saucer."

His engineering friends went ape over Computer Space and even started camping out in his back yard just to get their mitts on the buttons. Bushnell and Dabney sold the game to Nutting Associates, the company that was known for its Computer Quiz game. Then they sat back and waited for the bucks to come rolling in.

"He took the $500 he made from Computer Space and decided to form a new video game company. He called it 'Atari'."

Computer Space was a flop. Bushnell now thinks the game was just ahead of its time. It required players to control a spaceship in a gravity-less environment using "thrust," "fire" and "rotate" buttons. Bushnell saw too many players slip in a quater and then just stand there dumbfounded while the evil saucer winged over and zapped their drifting spaceship. He realized that if players weren't going to take the time to read the directions, he'd have to make a game they already *knew* how to play.

Like...tennis, or..., ping-PONG! Actually, Pong was an accident. Bushnell had teamed up with an engineer named Al Alcorn, to design a driving game. As a warm-up exercise for Alcorn Nolan assigned him to do a quick ping-pong type game. The game turned out to be so much fun, they decided to market it. Nolan knew this one was going to be a hit when he installed a test version of the game in Al Capp's Tavern, and the patrons practically beat each other up for the privilege of dropping quarters into its slot. In fact, the first Pong broke down because the coin box was jammed with money!

This time, instead of licensing the game to someone else, Bushnell and Dabney put up $500 apiece from the royalties of Computer Space to form their own company: Atari. As Bushnell had expected, Pong and Atari made economic history. But perhaps the game and the company mean more to the players themselves. A greying thirty-year-old Asteroids freak remembers playing Pong for the first time on the boardwalk of down-and-out Coney Island; "I was with my girlfriend, and I just plunked in a quarter to see what was inside this tv set. The damn screen lights up and I see what's going on and all I can say is 'wow!' I had brought five bucks with me, and after a few hours, all I had left was thirty five cents for the subway home. And I didn't care!"

Atari sold 10,000 Pong games, all told. It looked like it would be clear sailing for the new company. But the problem with Pong was that it was easy to imitate. Pong "knock-offs" (the industry word for rip-offs) began appearing on the market in 1973 featuring slight alterations in design, more paddles, different speeds, and so forth. Over 25 companies made Pong-type games. And if you count all the different ones together, it's the most popular coin-op game of all time, surpassing even the big three—Space Invaders, Asteroids, and Pac-Man—with total sales of more than 100,000 machines.

But Atari only got one tenth of the action. The fledgling company was still a seat-of-the-pants operation, and it was in danger of drowning in the sea of competition. After the first successful year, Dabney predicted disaster and wanted out. Nolan, still a believer, bought Dabney's share of the company in '73.

"Amateur Night In Dixie"

Of course, with hindsight, it's easy to say that Ted Dabney made the biggest mistake of his life when he signed away his share of the company. But try to picture a company made up primarily of long-haired, tee shirted engineers, and you'll get a glimmer of why Atari was shaky. Emanuel Garard, the acquisitions man at Warner Communications, recalls that Atari had no sales department to speak of, *or* manufacturing, *or* advertising: "Everything but research was lacking. It was amateur night in Dixie."

But Nolan wasn't one to do things by the book. He didn't want to play the part of stuffy chairman of the board. He was in the

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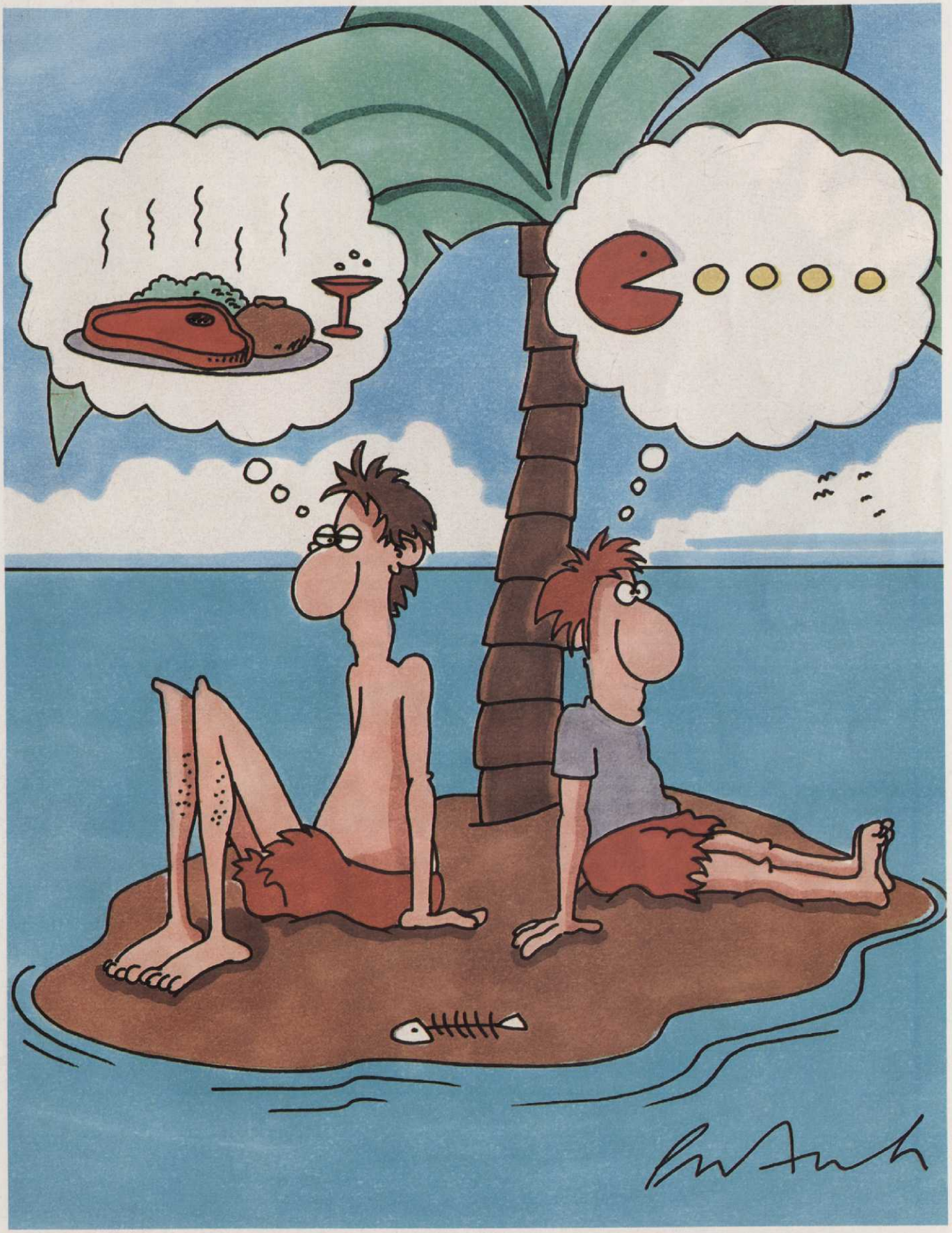
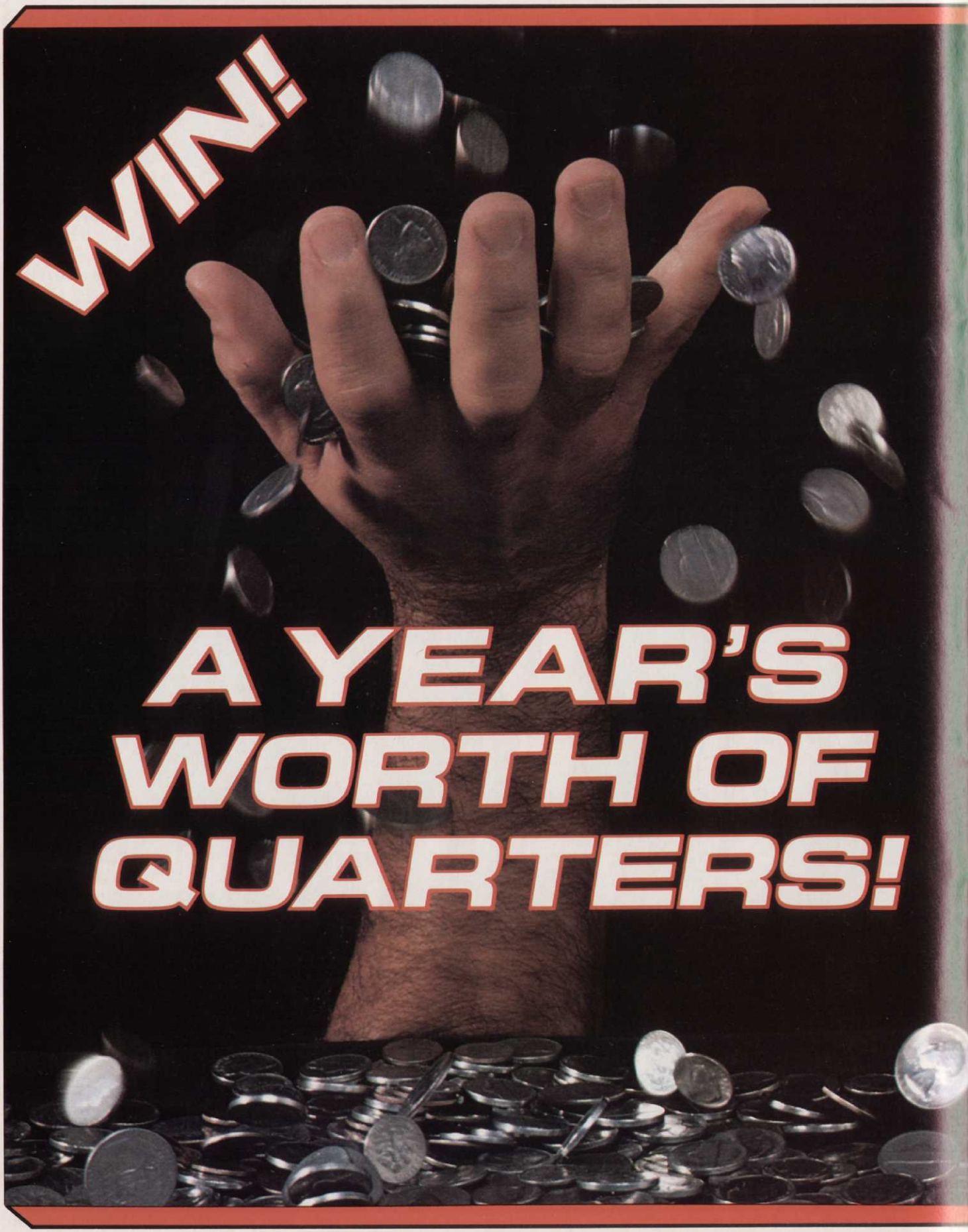



WIN!
A YEAR'S WORTH OF QUARTERS!

ENTER OUR "DESIGN YOUR OWN VIDEO GAME" CONTEST!

Have you ever thought you could invent a video game that was as good as anything you've seen in the arcades or on home game systems? Well, here's your chance to prove it and make enough cash to keep you playing for the next 12 months! All you've got to do is send us the name of your new game, a description of how it is played, and a picture of what it would look like on the screen. Read the contest rules carefully for full details. The best entries will be printed in a future issue. Hey! The entire video game industry is watching! This could start a new career for you!

Contest Rules

It is not necessary to describe any computer circuitry that goes into your game, just the image that appears on the screen and instructions on how to play it. Instructions should be typewritten and no longer than 250 words. Illustrations should be 8 by 10 inches or less, in pencil, ink, paint or whatever medium you choose. Sorry, we cannot return entries. All entries become property of Carnegie Publications. One entry per person, please. The winner will be selected by a panel of experts, on the basis of originality and artistic rendering. We reserve the right to limit prize money to an acceptable, reasonable amount. Entries must be postmarked no later than October 31, 1982. Got all that? Send your entry to: *Quarters, Carnegie Publications, 888 7th Ave., New York, N.Y. 10106.*

BIG DADDY

CONTINUED FROM PAGE 18

idea business. He wanted to make games. And he was willing to gamble everything he'd made already on the chance to develop something new. If it worked with Pong, it would work again.

Still, Nolan acknowledges that his business naiveté led to some financial disasters. There was one game called Trak Ten that nearly brought the house down. Nolan remembers: "We thought we were making money hand over fist, but the machine was selling for $995 and costing $1100 to make. We were shipping a hundred dollar bill out the door with every unit."

And then there was the lifestyle of Atari employees—not exactly subdued. Think tank sessions were held at a vacation retreat Atari owned on the California coast in Pajaro Dunes. It was called "Grass Valley" for obvious reasons. There were hot tubs, saunas and plenty of beer and pot. It was a kind of paradise of goofing and clowning. Gene Lipkin, former president of Atari's coin-op division, recalls: "It was like having a meeting at a fraternity house with everyone trying to get their ideas on the board at the same time."

They used to code name the new games after the women who worked at Atari. Bushnell says, "I remember Arlette the best. Boy, was she stacked and had the tiniest waist. I think she was 'Super Pong.'"

But while everyone had a great time and came up with lots of off-the-wall ideas, nothing could rival Pong's success. And standard business ventures backfired badly. Atari lost $500,000 trying to expand to Japan. Then it lost more money trying to open a chain of arcades in Hawaii.

Meanwhile, the public was getting sick of Pong. Arcade owners were sitting around with Pong this and Pong that and the players were staying away in droves. If they still wanted to play Pong, they could play it on their home tv sets. Coleco was the early leader in the sales of home games, made possible by the development of a new "dedicated chip" that could store enough data to operate four paddle games and two target games in one unit.

"Wow! Talk about realism!"

No Bucks

Nolan saw the potential in the home game market and determined to make Atari number one. Except there was just one little problem. Atari was running out of money.

As a way of getting some cash to work with, Nolan made a deal with Sears to market his *own* dedicated home game, which would sell as a Sears product, Telestar Arcade. Atari was in such bad shape that Sears had to lend them money just to manufacture its order.

But Nolan knew that the Telestar Arcade was soon going to be made obsolete by the programmable game, which was already on the drawing boards. If he waited, he would lose everything to other companies that could build and manufacture the game faster. There were two options for raising cash. The first was to go public and offer shares of Atari stock on the open market. The second was to sell the company to a large conglomerate with enough cash to bankroll his research department and build the games. He chose the latter course and sold out to Warner Communications in 1976.

The deal took four months to negotiate. Warner's brass had more trouble accepting the lifestyle at Atari than the company's products. They *love* the games. But tee shirts, long hair, pot smoking and showing up to work when you felt like it wasn't the way Warner subsidiaries usually operated.

When the deal went down, Nolan became wealthy. *Very* wealthy. Warner paid somewhere in the neighborhood of $28 million for Atari. Nolan himself came out of it with $15 million. Plus, he retained his chairman of the board status. He was rich, but he wasn't happy: "I'm not a very good chief operating officer," he says. "I like to develop the strategy, not to work it." He frequently took holidays from work.

Talking Rats

Besides, Nolan was getting interested in a new business idea—A chain of pizza parlors with entertainment provided by robot animals and, of course, video games.

Actually, his new brainstorm dated back to 1974 when Nolan picked up a costume for $800 at an industry show, brought it back to his engineers, and told them to make it dance and sing. It took Atari's wizards two years to develop the prototype talking, singing, moving robot—a likeable rat named Chuck E. Cheese. But by then Atari belonged to Warner and the new bosses didn't think too much of Pizza Time Theaters, as Nolan called the new venture. As a token gesture, they built one Pizza

CONTINUED ON PAGE 56

The Video Game Gazette

ALL THE NEWS THAT'S FIT TO PLAY

PAC-MAN BITES THE DUST!

BY WALLY PIPP

UPI

The last photograph taken of Pac-Man before his untimely death.

***LOS ANGELES*—The nation mourned yesterday when it learned that Pac-Man, the video game character and inspiration to millions, had passed away. Pac-Man was found dead in his Beverly Hills apartment on Friday night by his girlfriend, Ms. Pac-Man.**

"He's dead," she sobbed to reporters, "but we must be strong. We must keep on moving forward, keep on smiling, keep on eating."

Eating is what finally made Pac-Man pack it in. Dr. Thomas Noguchi, the "Coroner To The Stars," revealed the cause of death to be "food poisoning... and jaundice." Privately, Noguchi said, "Pac-Man dug his grave with a fork and spoon. Dots, lines, fruit, energy pellets, ghosts—he was insatiable. He finally bit off more than he could chew. And I ask you, is it worth killing yourself for a few lousy points?"

Friends of Pac-Man feel there are other reasons behind the tragedy. Next door neighbor, Frogger, speculated; "Pac achieved fame and fortune too fast, too young. He just couldn't handle it. He was so depressed and jealous when Zaxxon came out. And Pac could never understand why his fans would abandon him for something as ridiculous as Donkey Kong."

Marital problems also plagued Pac and Ms. Man in the final days. The couple was constantly fighting, especially around mealtime. However, in the end, Ms. Pac-Man was at his bedside as he lay dying. "His last words," she told the *Gazette*, were, "Wocka...wocka... wocka...I'm full."

Funeral services were held for Pac-Man early this morning. It was a touching ceremony, marred only by the appearance of four shadowy demonstrators who were escorted away by security police.

PARKER RELEASES GAMES FOR ATARI

CHICAGO—There is more to life than Monopoly apparently, so **Parker Brothers** is entering the video game software business. Banking on names America is familiar with, among the first **Atari** compatible games will be **The Empire Strikes Back, Frogger, Spiderman,** and **James Bond 007.** Also new from Parker will be **Amidar, Super Cobra, Tutankham, Sky Skipper and Reactor.**

Watch for Spiderman this fall.

Intellivision owners, don't despair! Within the year, these companies will be making games for you—**Parker, Imagic, Activision, and Coleco.**

The Video Game Gazette

ANYONE WHO IS NOT HERE, PLEASE RAISE YOUR HAND

SAN DIEGO—Who *says* video games keep kids away from school? An arcade owner here is donating $100 a week for students who have good attendance records. David Kuttnauer, 17, and Dolvina Adkins, 15, are shown here breaking out the stash of tokens they earned for perfect attendance at San Diego High School.

UPI

UPI

"I NOW PRONOUNCE YOU PAC-MAN AND WIFE."

DES MOINES—Since Pac-Man is the first video game that women really went bonkers for, it stands to reason that playing Pac-Man is a great way to meet girls. That's the way it was for Kyle Riley, who met his future wife Jo Linda Richardson at this Pac-Man machine. Jo Linda and Kyle plan to have their wedding ceremony in the Des Moines arcade where they first met, and their honeymoon bridal suite is to be equipped with a Pac-Man game.

QUICK! CASH IN YOUR QUARTERS!

ILLINOIS—Well, at least we have authoritative proof of the hazards of video gaming. It said so right in the *Weekly World News*. Other actual *News* headlines you might want to check out...

*Town Wants To Burn Corpses For Energy.

*Black Magic Master Turns Corpses into Zombie Slaves That Walk Among The Living.

* Pastor Returns From The Dead.

* Evil Genius Starves His Own Mother.

* Bill Collectors Come Calling With Guns Blazing.

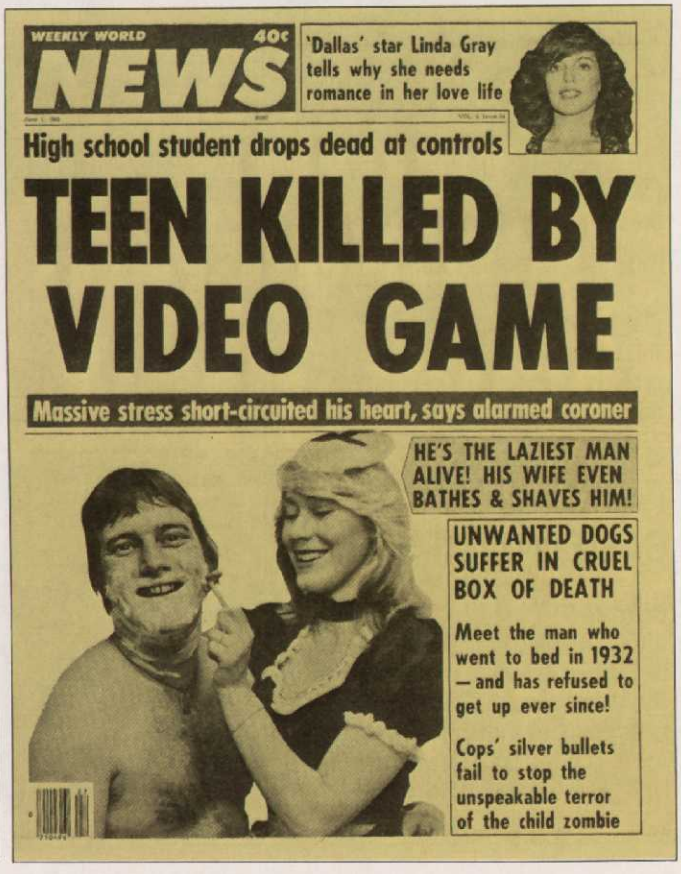
* My Unborn Baby Will Be A Witch.

* Pesky Cat Gets Microwave Death.

* Descendant Of Vicious Count Says He Wasn't A Bloodsucker.

* Dad Invites Daughter's Murderer To Her Burial.

* Did Granny Make A Fur Piece Out Of My Precious Cat?


WEEKLY WORLD NEWS
40¢
'Dallas' star Linda Gray tells why she needs romance in her love life
High school student drops dead at controls
TEEN KILLED BY VIDEO GAME
Massive stress short-circuited his heart, says alarmed coroner
HE'S THE LAZIEST MAN ALIVE! HIS WIFE EVEN BATHES & SHAVES HIM!
UNWANTED DOGS SUFFER IN CRUEL BOX OF DEATH
Meet the man who went to bed in 1932 — and has refused to get up ever since!
Cops' silver bullets fail to stop the unspeakable terror of the child zombie

ARCADIA "SUPER-CHARGES" ATARI

SANTA CLARA—People are buzzing about the new "Supercharger" you plug into your Atari VCS to increase its memory from 128 bytes to 6,272 bytes. The Supercharger ($70) plugs in where your games usually go. A cable goes from the Supercharger to the earphone jack on your standard cassette tape player. The games, supplied by **Arcadia** for just $14, are on recording cassettes.

If we do say so, it's pretty nifty and so are Arcadia's first four games—**Fireball, Phaser Patrol, Suicide Mission,** and **...Communist Mutants From Space.**

The Video Game Gazette

FALKLANDS UNDER VIDEO ATTACK!

MANCHESTER, ENG—When the Falkland Island crisis began, anxious Englishmen could barely wait for their warships to get to Argentina. In the meantime, one clever company, Prestel, invented a computer game to keep the British occupied. **Obliterate** pitted the British Royal Navy against the Argentine fleet. As the real war progressed, the game program was changed accordingly and enthusiastic Brits tried to whip Argentina on their TV sets.

Obliterate was very popular, but it was discontinued when British officials complained that it encouraged folks to see war as "nothing more than a game."

Mercury 332
332911112a
1p
Well done sir!
You have achieved your mission to obliterate the pride of the Argentine fleet. You are a national hero. Horatio would be proud of you.
Key 1 for an "action replay"
Key 0 to take it easy "at home"

UPI

FAIR IS FAIR

KNOXVILLE—**Odyssey,** located in Tennessee, has been named Official Video Game of the 1982 World's Fair, which is also taking place in Tennessee. Not to be outdone, **Atari,** located in California, has been named Official Video Game of the *1984* World's Fair, to be located in California.

UPI

73 MILLION POINTS!

NEW JERSEY—No, not in one game. But for fifty hours straight, Michael Spinak, 16, and Jimmy Hallahan, 16, labored over a hot **Missile Command** in their unusual effort to raise $60,000 for a 10-year-old neighbor's kidney operation. That's Jimmy's fan Lori Santangello, 14, who helps defend cities by sticking out her tongue.

UPI

JAPANESE PREFER TO PLAY "PACHINKO"

TOKYO—Although Space Invaders, Pac-Man, and many other hit video games originated in Japan, the Japanese are obsessed with a different game—Pachinko. In pachinko parlors, you drop a 100-yen coin (43 cents) into a slot and 25 metal balls go spinning across a vertical board. Some of them will disappear and some will win you bonus balls, which can be exchanged for a jar of orange marmalade, a canned ham, a new pair of underwear, or other nifty prizes.

I'll take a free game, thanks.

The Video Game Gazette

LONG RANGE PLANS

Columbia Pictures has announced that **Atari** will be marketing home video game cartridges on the forthcoming epic adventure film, "Krull." The movie and games are scheduled for release in the summer of 1983.

WHY ARE THESE GUYS SMILING?

SANTA CLARA—You'd be smiling too if the revenues from your new company had jumped from $6 million to $66 million in one year. These are **Activision's** senior designers—Larry Kaplan, Alan Miller, David Crane, Steve Cartwright and Bob Whitehead.

GETTING TOUGH WITH RIPOFFS

NEW YORK—Recent court decisions are helping the video game manufacturers protect their products. In one, a three-judge panel ruled that designers of games have the same copyright protection as book authors and music composers. In another, enhancement kits, or "speedups" that alter a game's program were cited for copyright infringement.

In effect, video game designs are now classed as "works of art" like books or movies. Copying or tampering with them is against the law.

So the next time your mom tells you to stop playing video games, tell her you're studying great works of art!

Warnings issued by industry leaders against illegal copies.

PSSST! WANNA FREE PAIR OF BELL-BOTTOMS?

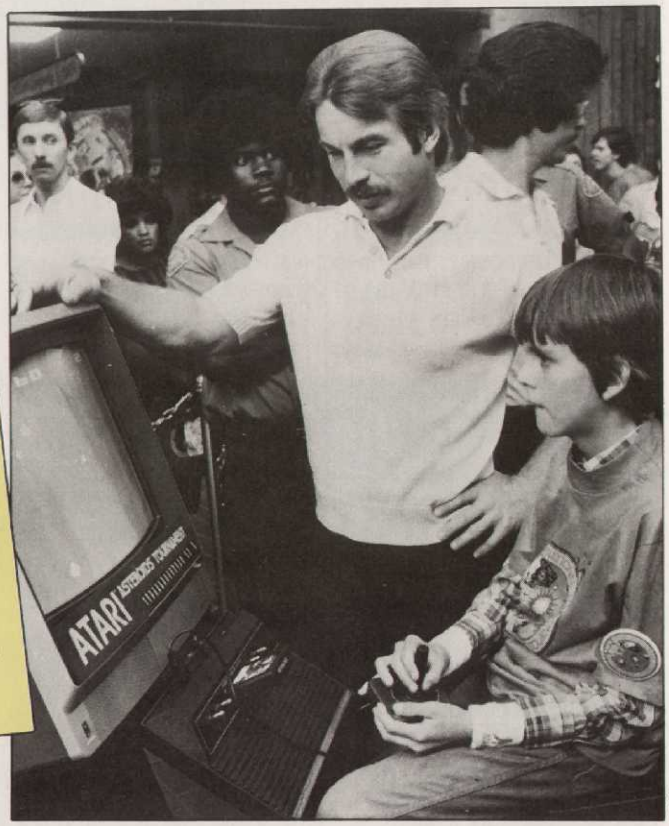
CHICAGO—Is there a suspicious-looking person hanging around your arcade trying to get you to try new things? Be careful—it might be Julie Reed, 27, the U.S. Navy's top recruiter. Last year she hung around arcades and got 83 video jocks to enlist. Julie told the Chicago Tribune that she liked recruits from the arcades. "They're not hanging around the street corners; they're challenging themselves with these games."

ALSO AT CES...

As if folks didn't have enough to look at, there were plenty of Playboy Bunnies and Penthouse Pets at the Summer Consumer Electronics Show.

DODGERS TO HIT HYPERSPACE

PASADENA—Los Angeles Dodgers third baseman Ron Cey plots strategy for next season as he observes a hopeful champion (note Atari sweatbands) in the International **Atari Asteroids** Tournament. Over 2,000 people attended the competition.



UPI

"That's two Space Invaders Wrists, two Pac-Man Elbows and a Frogger Finger. Any other casualties?"

KICK ASTEROIDS!

CONTINUED FROM PAGE 15

The Bylaws Of The Awesome Player Society apply to just about every game you'll see. Here are few other tips you should keep in mind for future games...

Watch other players play a new game. You should concentrate on players who are running up unusually high scores or are using strategies you haven't seen before. Between their games, ask them questions on how and why they made particular moves.

Most obviously you can play the new game yourself. Play it over and over the first time you try it: This will quickly give you a "feel" for the game, and in each game you will efficiently build on what you learned in the previous one. Experiment with the game, not worrying about the score. Determine the limits of each control: How fast can you go, how high, at what angles; how long does the shield last? Determine the characteristics of each object on the screen: What happens when you shoot it (does it totally disappear, does only part of it break off, does it explode into a swarm of even more dangerous objects?), what happens if your don't shoot it (does it attack you, is it joined by other enemies?)?

Make careful mental notes of what you learn. If you're willing, even take written notes. Don't laugh: The first known player to exceed 1,000,000 points on Defender not only was smart and quick: he also took pages of notes on small details of the game.

In addition to points already mentioned, here are some important questions to answer about each game:

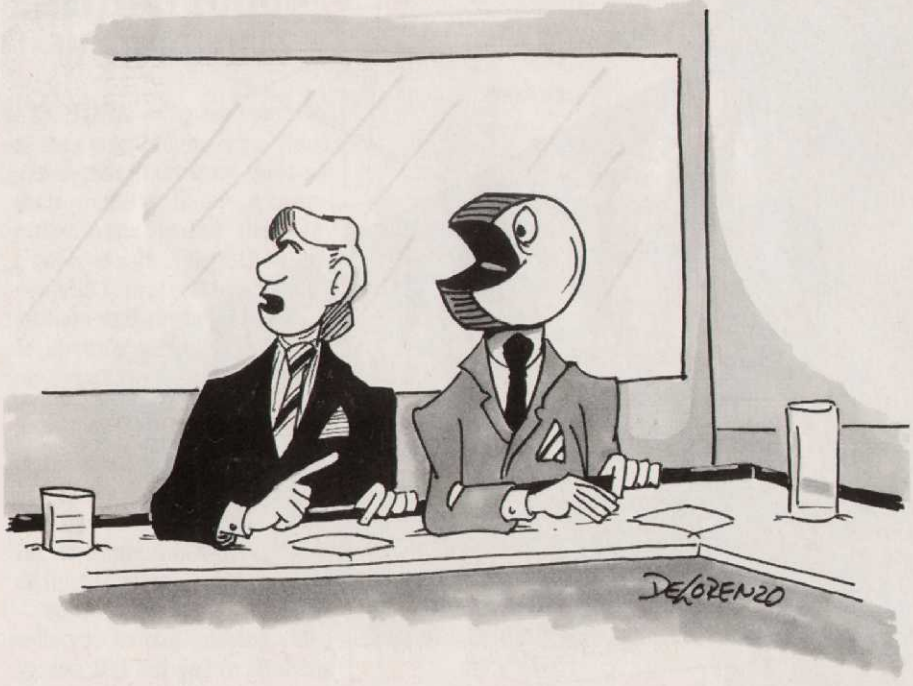
1. *What are the objects in the game (bases, ships, missiles, bombs, beings, obstacles)?* What are the offensive capabilities (such as shots and bombs) and defensive capabilities (such as evasion and Hyperspace) of each object? What are the limits of each offensive and defensive capability (such as number of shots at a time, range of shots and bombs, lifetime of shields, percentage of times in which Hyperspacing ends in destruction on reentry)? How many points are awarded for each enemy object's destruction? How many of each object are there in each wave? Do the objects have sensitive and insensitive parts (for instance the tip of the player's ship in coin-op Asteroids can be struck by a rock with no ill effects)? At what point are you awarded a new base or ship or additional weapons? What happens when all of one type of enemy or friend is eliminated: Is the wave over, are all of a certain type of enemy suddenly reincarnated (as in the fifth stage of Phoenix), is there a catastrophic transformation of enemy forces into a far more fearsome group (as in Defender)?

2. *In what ways does the game get harder as it continues*? Is there more of each enemy object in each rack after the first, do new enemies show up for the first time, do obstacles increase, does everything move faster? What is the number of the hardest wave? Is there any wave that is easier than an earlier one (like every fifth wave in Defender, when you return from space to the planet to find all ten of your men back in place)?

3. *What are the video displays and audio warnings that help you know how you are doing and what to do next?* Where and when are points displayed? Are there digital displays on the screen or cabinet that tell you how many bases or ships you have or how many of each weapon or other object are left or that tell how much time or fuel remains? Is there a radar screen or other small screen informing you about the area not appearing on the main section of the screen, what does it show, how accurate is it? Are there sounds (like the squeak of each abducted man in Defender) or spoken warnings (like "Laser temperature critical!" in Astro Blaster) that warn you of an impending disaster that you can avoid?

4. *In the game's program, are there are any "bugs" or other characteristics a player wouldn't expect to find?* Are there giveaway periods, as in Defender or coin-op Missile Command, where the machine suddenly awards vast numbers of ships, weapons, bases, or cities for no reason at all? Does the game have vulnerabilities that may not have been intended by the designers but that can be exploited by the player (like coin-op Asteroid's weakness against the strategy of hunting saucers)? Are there surprising video or audio effects you can cause in order to gratify yourself or impress your friends (like chasing right behind dangerous Monsters by using a certain pattern in coin-op Pac-Man or like knocking off coin-op Space Invader aliens in the right order to create a rainbow)?

5. *Most important: How do you inscribe your name or initials on the screen of the machine in order to proclaim yourself as the greatest video star to play it?*



"Bartender, I'll have a martini... and a power dot for my friend here."

Photographs by Matthew Klein

HOW COOL ARE YOU?

A Lesson In Arcade Etiquette

Look, anybody *can walk into an arcade, drop a coin in the slot, and play. But if you really want to score points with the Awesome Player Society, you've got to do more than just score points. You've got to know how to look. You've got to know how to move. You've got to be* cool.

We've called on our resident video game expert, Art Cater, to show you the fine points of proper behavior in your local electronic emporium. Remember, whether you're an "All-Time Immortal" or you can't get past the first board, when you play video games, play them with style!

Thanks to Station Break Family Amusement Center

Rule Number 1:

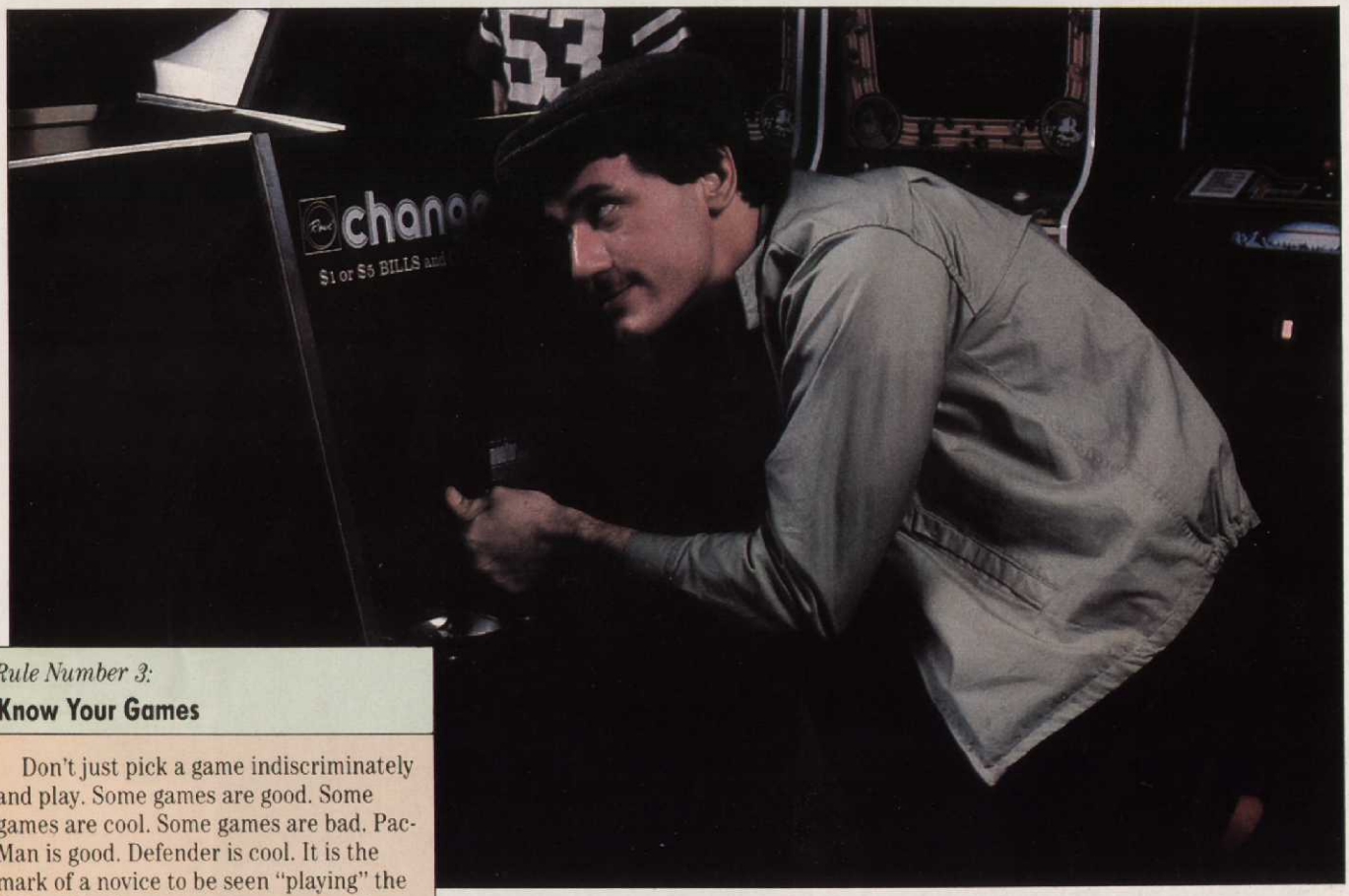
Do Not Attract Attention To Yourself

When you enter the arcade, don't swagger in like Wyatt Earp and expect everyone to hide under their tables in fear. They came to have fun, not to watch you walk funny. The really cool player doesn't have to make a scene.

Rule Number 2:

Don't Hog The Machine

Putting a quarter on the machine is a signal that you have the next game. Do not take advantage of this courtesy. Putting *one* quarter on the glass is cool. Putting on two quarters is pushing it. Three quarters is grounds for execution.



Rule Number 3:

Know Your Games

Don't just pick a game indiscriminately and play. Some games are good. Some games are cool. Some games are bad. Pac-Man is good. Defender is cool. It is the mark of a novice to be seen "playing" the dollar bill changer or cigarette machine.

Rule Number 4:

Do Not Distract The Other Players

Video games require intense concentration and most players will not appreciate it if you jostle their hand, spill food on the screen or shout "Watch out for that mutant!" at regular intervals. Unless you enjoy spending time in hospitals, keep your hands to yourself and your mouth shut.

Rule Number 5:

Shut Your Face

Just as you don't want onlookers disturbing your game, other players don't want you disturbing theirs. The fellow at the machine next to you doesn't need a running commentary of your game. Exclamations such as "Yippee!" and "Die, you slime!" are especially frowned upon.

Rule Number 6:

Start Your Game Right Away

If you're playing a popular game, most likely there will be people waiting for a turn. Don't dawdle. The really cool player doesn't need to read the game's instructions—he knows what to do. Be considerate to the people waiting behind you, or you may be forced to pick shrapnel out of your legs.

Rule Number 7:

Accept Defeat Gracefully

Nobody ever *beats* a video game. The better you get, the better the machine gets. Given enough time, the machine will always win. So do not curse or cause physical harm to the game. Walk away with your head held high, until you challenge it again.

Rule Number 8:

Know When To Leave

These rules of video game etiquette are complex, and sometimes even a cool guy like Art Cater will overstep the bounds of decency and decorum. Do not wait for a bunch of angry bikers to look at you menacingly. If you sense that you have offended anyone by acting in poor taste, split!

ARCADE ART GALLERY

ZAXXON

The first space game with realistic three dimensional effects.

VIDEO GAMES PLAYER

TEXAS SHOOTOUT!

7-11 and Dr. Pepper Team Up For The First State-Wide Championship

Tim Collum is the fastest gun in the West. Or Texas anyway. After 300,000 Lone Star video jocks had had their chance, Tim, Billy Joe Cain and 11-year-old Alex Dubler came out on top.

And when the smoke had cleared, Tim walked out of Market Hall in Dallas with $1,000 and two arcade games. Cain took home a Pac-Man and Dubler a Tempest.

The State Tournament was sponsored by 7-11 and Dr. Pepper for the benefit of the Texas March of Dimes, which received a check for $5,000.

Crowds watching the action on monitors.

Spectators had free access to over 200 games.

Photography By David Richardson

More than 300,000 kids from all over Texas were gunning for the title of "Fastest Joystick In The West." But on the morning of June 5th, only five of them were left.

The March of Dimes was the big winner, but Tim Collum did okay—he won the tournament!

Alex Dubler, 3rd place finisher, takes home an armload... plus a full-size Tempest machine.

The finalists had to test their video gaming skills on these three new "mystery games."

VIDEO GAME WARS

Who Will Be The Big Winner After The Video Game Companies Finish Slugging It Out? (*You* Will!)

By Dan Gutman

The scene: a television studio. George Plimpton is taping an Intellivision commercial.

Plimpton: "I've been making more comparisons between Mattel and—"

Suddenly, six ten-year-old kids with horn-rimmed glasses, The Atari Anonymous SWAT Team, enter the studio with machine guns. Plimpton falls in a hail of bullets and lies bleeding all over his Astrosmash cartridge. Pathetically, he tries firing a few laser shots at the youngsters before expiring. The kids split, shouting, "That's the last comparison *he'll* ever make!"

Sound ridiculous? Well, it's only a slight exaggeration of the war that is swirling around you—*The Video Game War.*

Fact—Last year Americans spent six billion bucks on video games. That's more than we spent on baseball, football and basketball combined. More than we spent on movies and records combined. More than twice the take of all the casinos in America combined. It is truly the Gold Rush of the 1980's.

Can you imagine twenty billion quarters? That's what dropped into the slots of arcade games last year, including two million dollars a *week* into Pac-Man alone. Pinball manufacturers like Stern and Williams have switched to cranking out hit videos like Berzerk and Defender. At least thirty companies have signed sublicensing agreements with Midway to make Pac-mugs, Pac-watches, Pac-greeting cards and Pac-bedsheets. More than twenty books on video games have hit the shelves. Hell, you wouldn't be holding this magazine in your hands if somebody wasn't pretty sure you'd pay hard cash for it.

Six billion dollars is a big pie and everybody wants a slice. This means war—a war that is being fought in the arcades, in the homes, and more often than not, in the courtroom. By the time all the manufacturers elbow their way to the front lines, there will be some casualties.

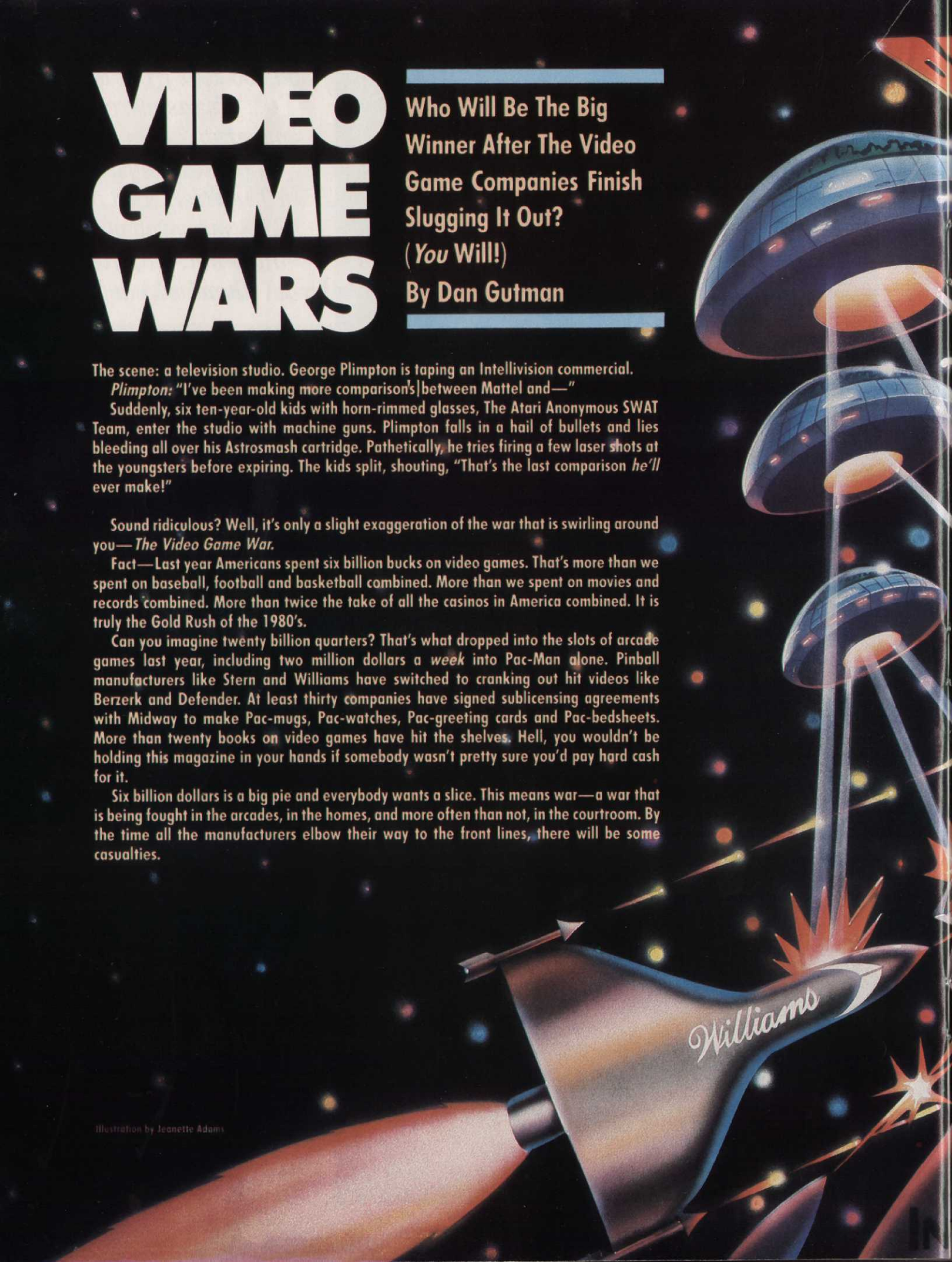


Illustration by Jeanette Adams

ACTIVISION
PARKER BROTHERS
SEGA / Gremlin
STERN
HOW TO BE
COLECO
ATARI
MIDWAY
tellivision

THE ARCADE ARMAGEDDON

We're not even talking about the war *against* arcades by the people who equate video games with the decline and fall of Western civilization. We're talking about the war for your quarters. Everybody wants to invent next year's Pac-Man, but if they can't do that, how about last year's Pack Man or Puck-Man? After the Great Yellow One hit it big, suddenly everybody and his brother was coming out with a maze game where you just happen to get chased around until you eat something, then you get to chase the chasers. That's fine, but if some burly guys enter your arcade and roughly remove one of the games, chances are another "Crazy Kong" or "Congorilla" (illegal copies of Donkey Kong) is being seized. Look for "Hopperty." It's a Frogger ripoff. Somebody in England had the nerve to make a Pac-Man copy called, simply, "The Copy." When Space Invaders was number one, there were *sixty* Japanese companies making copies of it. Of the 100,000 Pong games that were sold, only a tenth of them were made by Atari, who originally produced Pong.

So what's the big deal? Copies give us more games to play. Yeah, but they're generally inferior products, and if you were a manufacturer, would you want to spend millions of dollars to research and develop great games only to make some other guy a millionaire? That's why video game designers in the U.S. have the same copyright protection as book authors. There is no copyright law in England, and video games are dying there.

But copyright laws don't stop the copiers. In the days of Pong, it took a long time to get the parts for Pong copies. But now, it's simple to copy a game. In fact, when Cinematronics' Naughty Boy was unveiled at a convention in St. Louis this year, the convention's attendees were led to a back room where a Naughty Boy pirate version was already standing. The copy actually beat the real game out onto the street!

SPEEDUPS

Video game players are a masochistic lot. They hate to win. When they win, they stop playing the game. This means less dollars for the arcade owner, who is at war with the manufacturers. The issue—enhancement, or "Speedup" kits. These kits change a game's program to make it harder. When the "easy" game gets harder, it makes more money from players like you who dig pain. More money for everybody.

Except for one thing—since video games are copyrightable, anything that modifies the program is illegal. Speedups are now against the law. Put yourself in the arcade owner's shoes—you buy Asteroids for $3,000. It makes big bucks until your players get the hang of it and move on to something else. You can't buy a speedup kit. A few months later, Atari comes out with Asteroids Deluxe and *nobody* is playing Asteroids anymore. You're lucky if you made back your original investment. And it doesn't help any when the home version of Asteroids comes out. Who wants to wait in line for a game at your arcade when they can play a similar version in the privacy and comfort of home? If anything kills the arcades, it won't be the anti-arcade fanatics—it'll be the exploding home video game revolution.

"Video games took in six billion dollars in 1981, and some people will do *anything* to get a piece of the action."

THE HOME HOLOCAUST

The first salvo was fired by Odyssey back in 1972, but since then, the superpowers, Mattel and Atari, have been slugging it out. Last year Mattel sold 600,000 Intellivisions. Pretty impressive, but Atari sold three million of their VCS. Atari, owned by Warners, owns about 80% of the hardware market right now. Last year Atari grossed six times the Warners record division, five times the Warners film division, and 47 times Warners Oscar-winning movie, *Chariots of Fire*!

Even so, only ten percent of American homes have a video game system, so 90% of America has yet to be conquered. And Atari and Mattel are gunning for it, with the best TV commercial war since Avis took on Hertz.

Last November a smug George Plimpton hit the airwaves and demonstrated how Atari's sports games looked like day old oatmeal. Atari struck back with an equally smug twerpy kid who claimed he couldn't compare Intellivision's space games with Atari's because Intellivision didn't have any, nyah, nyah. Mattel, which had covered just about every sport short of bocce ball, quickly cranked up some space games and Plimpton was back on the air, firing missiles at Atari. By that time, Atari had become disgusted with the whole mess and stopped giving Mattel the free advertising. But it was great fun while it lasted. Now, Mattel is making cartridges that will fit into the Atari VCS, which is the equivalent of Israel recognizing the PLO.

Atari is the fastest growing company in America's history, so naturally competition is spreading like brushfire, even from within the company itself. Disgruntled game designers, who are now superstars and millionaires, don't think twice about looking for a new job. Imagic, which makes software for both Intellivision and the Atari VCS, was formed by two ex-Atarians and two defectors from Mattel. The president of 20th Century Fox video games is an ex-Mattel man. The three guys responsible for Atari's "Battlezone," Howard Delman, Ed Rotberg, and Roger Hector, have left Atari to form Videa, which is making arcade games. Rumor has it that Atari's design stable has been severely depleted.

Why should a hot 25-year-old game designer who reportedly starts at $60,000 a year plus royalties leave his cushy job? Eugene Jarvis, who invented Defender and *also* once worked for Atari, told *Playboy* that when Defender became a hit, "they (Williams) offered me a bonus of cash and stock options spread out over four years. It didn't seem like enough to me. The more I thought about it the more I realized game designers can get ripped off. The companies make millions and the designers get only a few thousand." Jarvis left Williams to form his own company, Vid Kidz.

Perhaps the most painful loss to Atari came when four of its designers left in 1979 to form Activision. Between them, Al Miller, Larry Kaplan, Bob Whitehead and David Crane are said to have created more than half of Atari's home games up until that point. They had a great idea—form a company to make games that will be played on the Atari system.

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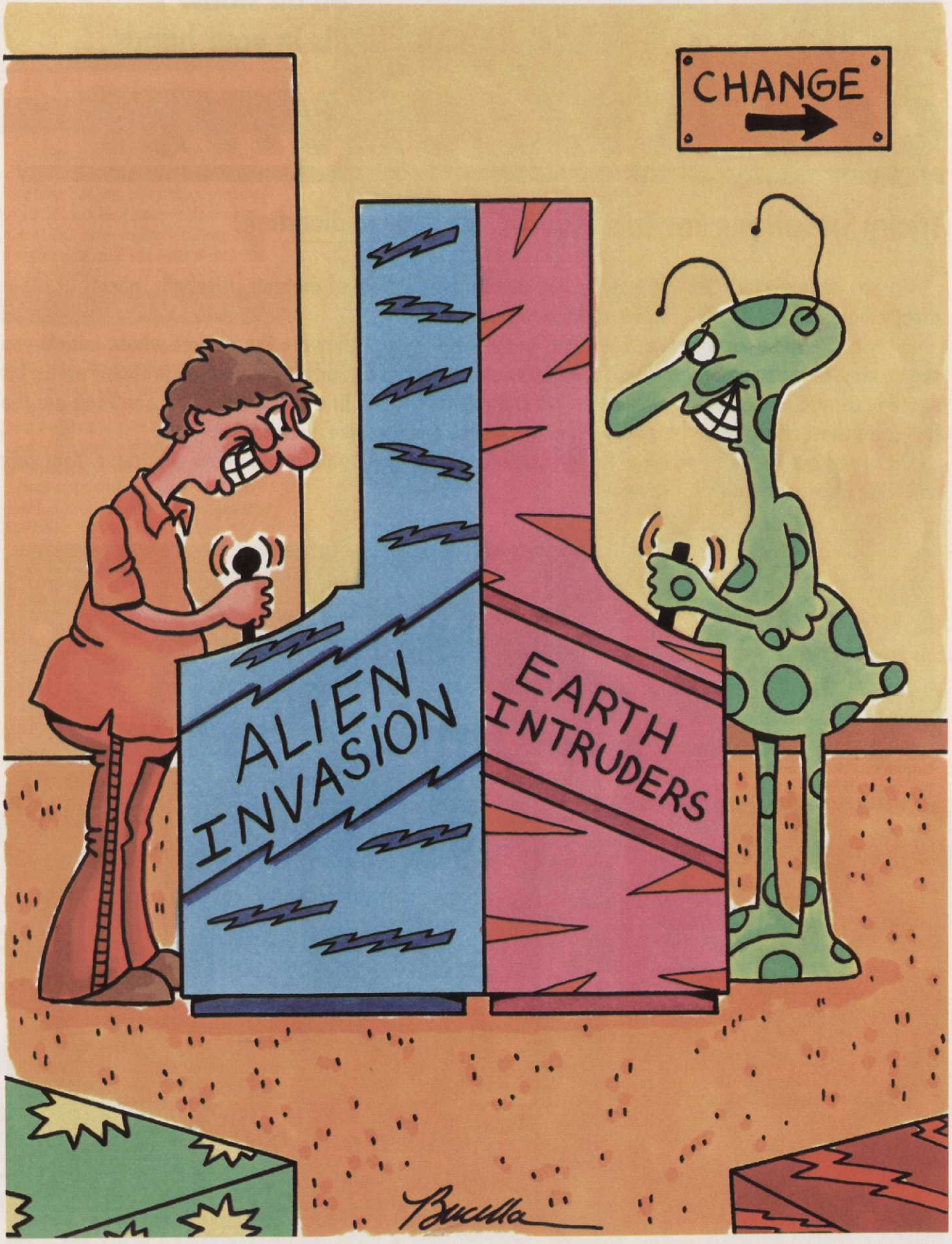

CHANGE
ALIEN INVASION
EARTH INTRUDERS

You are under attack. Aliens surround you on all sides. There is no way out. The fate of civilization is in your hands...

CAN YOU SURVIVE?

Tricky Situations For Top Players

By Michael Blanchet

Do you have guts? Can you handle any situation regardless of mutants, fuseballs, ghosts or other assorted evil-doers? That's what we're here to find out.

Every game room has its own "big guns" or "in-house pros." They are the players whose initials you see on most of the games in the arcade. If you've ever watched a good player, you will probably notice his strategy as well as his knack for coaxing the controls to respond in a crisis. What you *don't* see are the fail-safes these video jocks turn to in situations where death seems unavoidable.

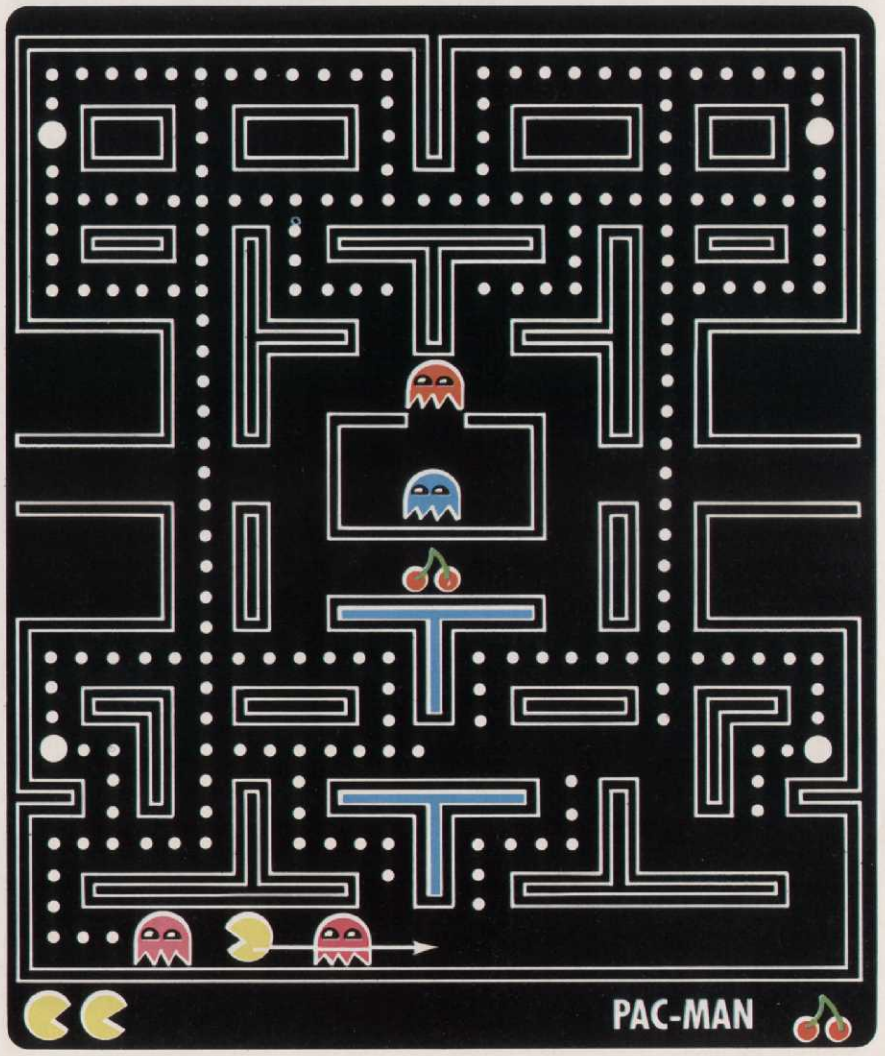
Let's see how *you* respond when the pressure is on. Here are ten life and death situations. Your very existence is in peril. Can you survive?

THE CRISIS...

Your **Pac-Man** is traveling along the bottom corridor of the maze. Suddenly, two monsters close in on you from opposite sides. Is there any means of escape, or will poor **Pac-Man** deflate in the clutches of Pinky and Speedy?

THE SOLUTION...

There is only one means of escape and it is a very rare opportunity. If one of the two monsters turns its eyes away from **Pac-Man,** you may then pass directly *through* the monster unscathed.



Illustrations by Nina Wallace

THE CRISIS...

In **Scramble,** your fuel is running dangerously low. Unless you can destroy the base and get an extra ship, you are doomed. But how can you destroy a base? The canyons are too steep for a bombing run and too narrow for your lasers. Help!

THE SOLUTION...

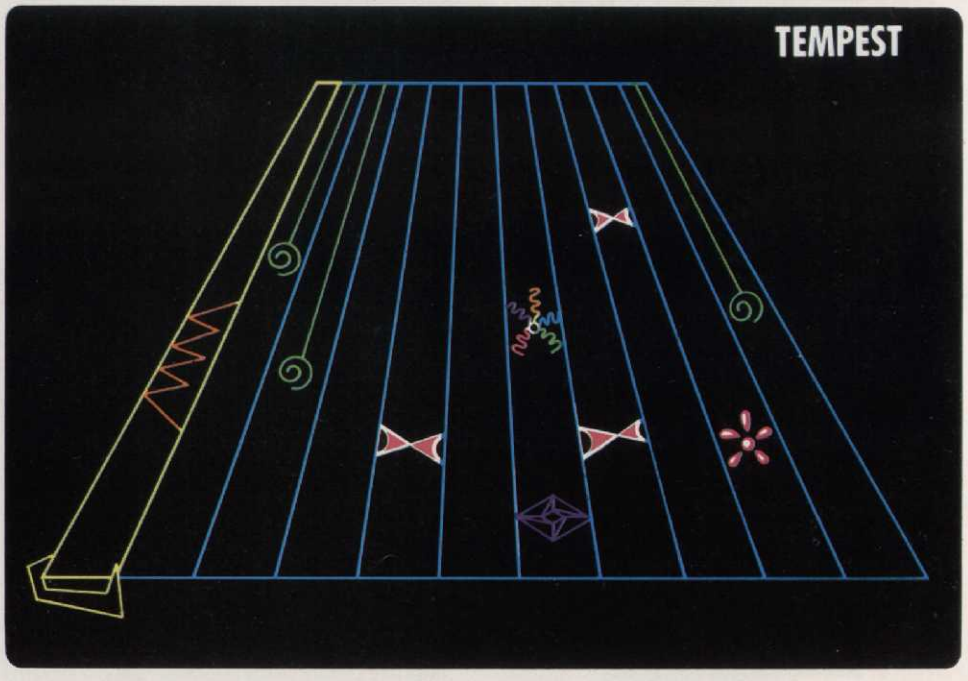
You have to remember that the fighter you are commanding is expendable if you will be getting a bonus ship. To reach the base, thrust forward full speed until your ship is over the crater the base rests in. Pull down the joystick until your ship begins to move forward. Before you crash (which is inevitable once you've descended into the valley), either fire your lasers or drop a salvo of bombs. When the base is destroyed, you get a new ship.

THE CRISIS...

You are on level 11 in a game of **Tempest.** You've expended your first Super-Zapper, and a fuseball is rushing to the outer rim and creeping toward your blaster. You know that your second Super-Zapper can destroy only one of the many aliens on the playfield. Is it all over for The Kid?

THE SOLUTION...

No! The second Super-Zapper is selective in respect to the alien it picks to destroy. It will annihilate the foe that poses the *greatest immediate threat* to your blaster. In this case, it will single out the fuseball and vaporize it.

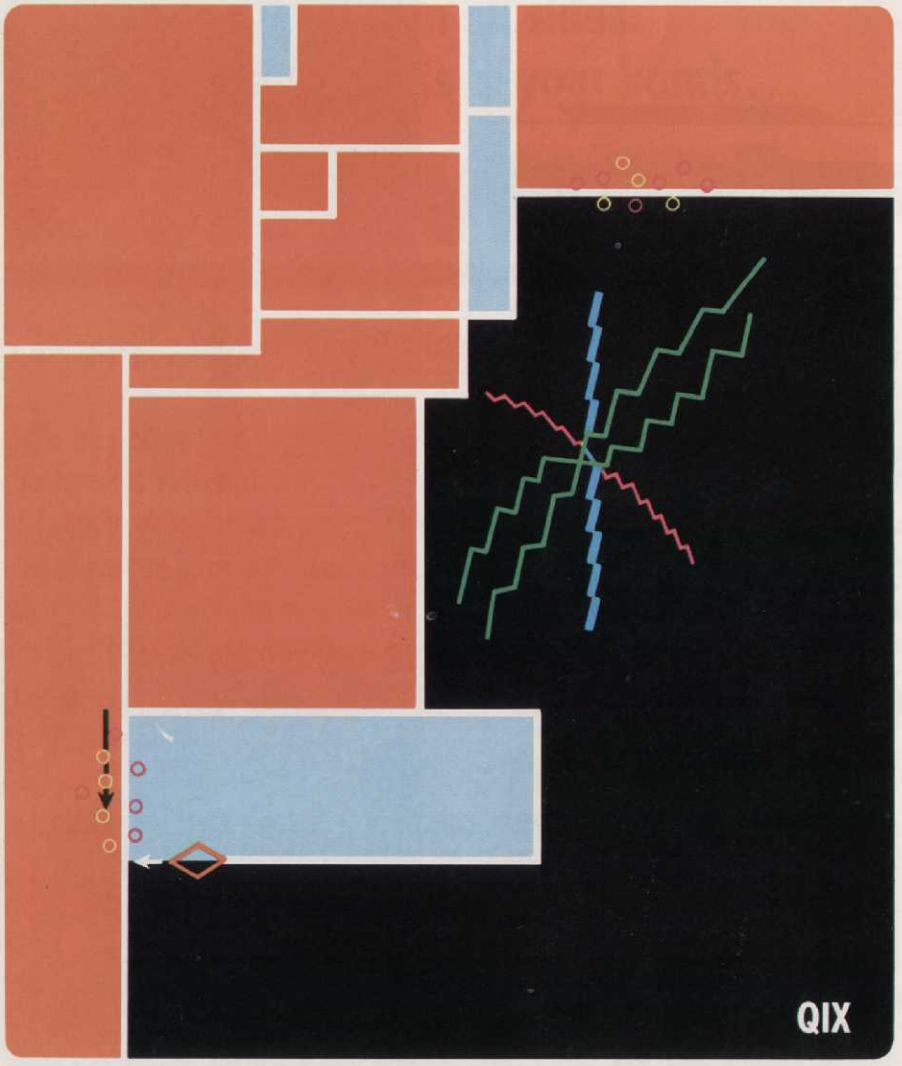


THE CRISIS...

You are engaged in battle with the twisting **Qix.** You guide your marker off the border to claim some territory. Just when you are about to close the figure, you realize that, on you present course, you will collide with a spark that is rushing toward your marker's end point. Without drawing an additional line or changing you direction, what's an arcader to do?

THE SOLUTION...

By momentarily releasing the "Draw" button, your marker will stop and the spark will pass. But keep an eye out for the fuse. If you wait too long, the fuse will zap your "Stix" from behind.

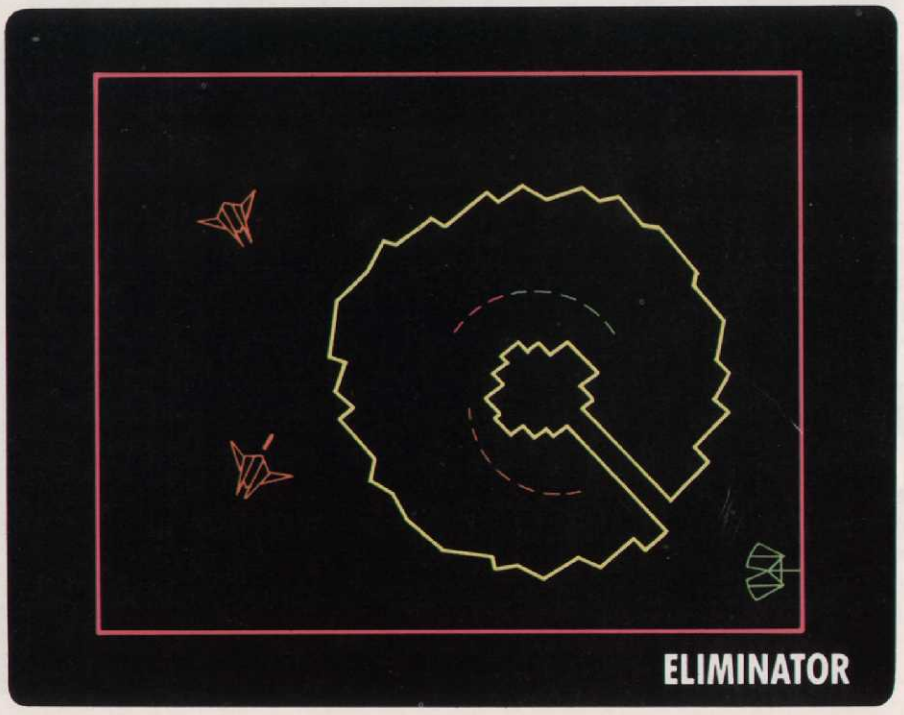


THE CRISIS...

The **Eliminator** base is forcing your fighter into a corner. You can't fly around the base. You know that the walls of the playfield have an elastic quality, so if you hit one, you'll bounce off and be killed. Is there no escape?

THE SOLUTION...

Position your ship nose first against the border. At the same time, hit your thrust button. Within a few seconds, your fighter will cling motionless to the wall. Wait for the **Eliminator** base to drift away and resume attack.

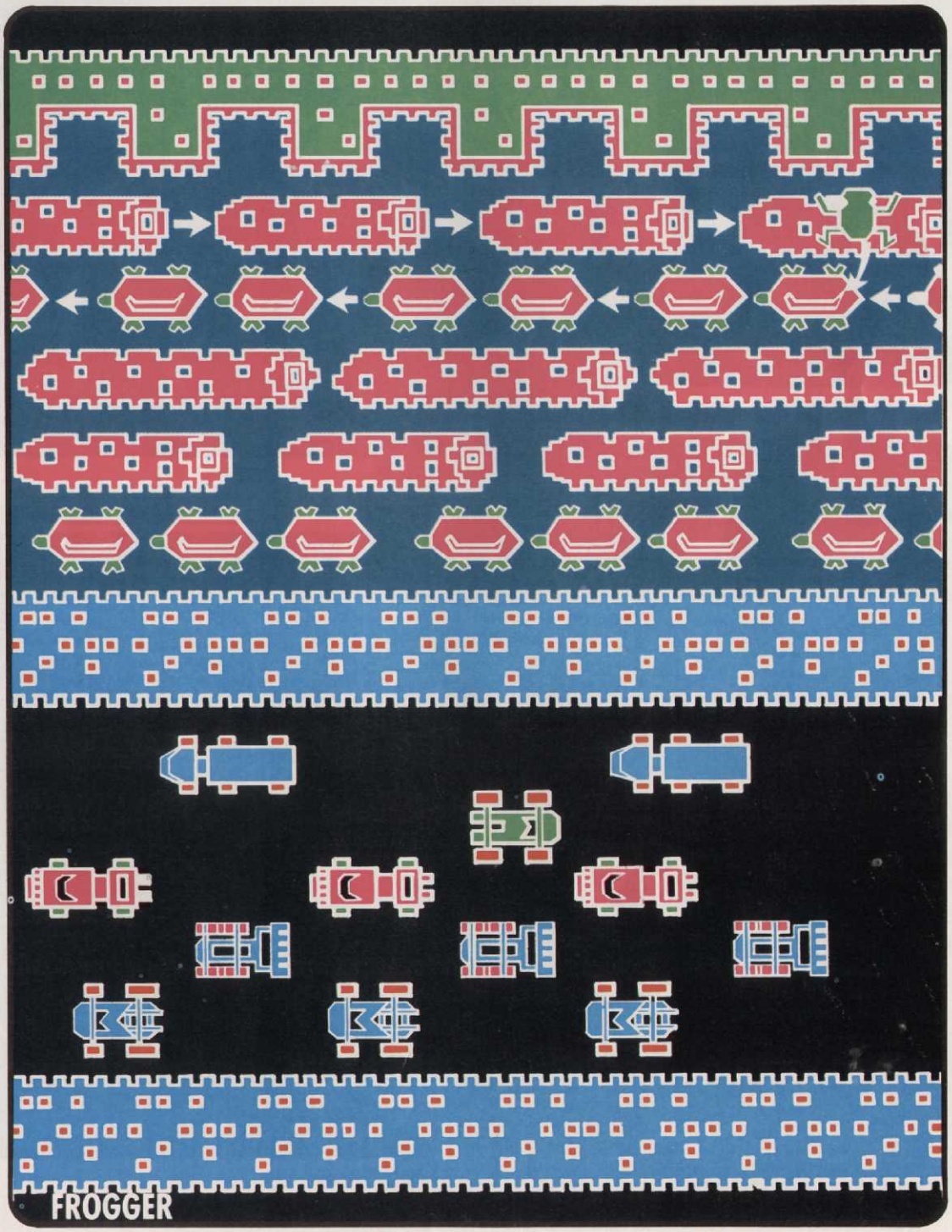


THE CRISIS...

In **Frogger**, you can't seem to make a connection with the next row of logs and you are drifting off the screen (towards a horrible death, we might add). How do you avoid ending up in a French restaurant?

THE SOLUTION...

A lot of people are constantly drowning and getting hit by cars simply because it doesn't occur to them that... **Frogger** can jump *backwards.* If you're in trouble, go back a row and wait until the coast is clear.



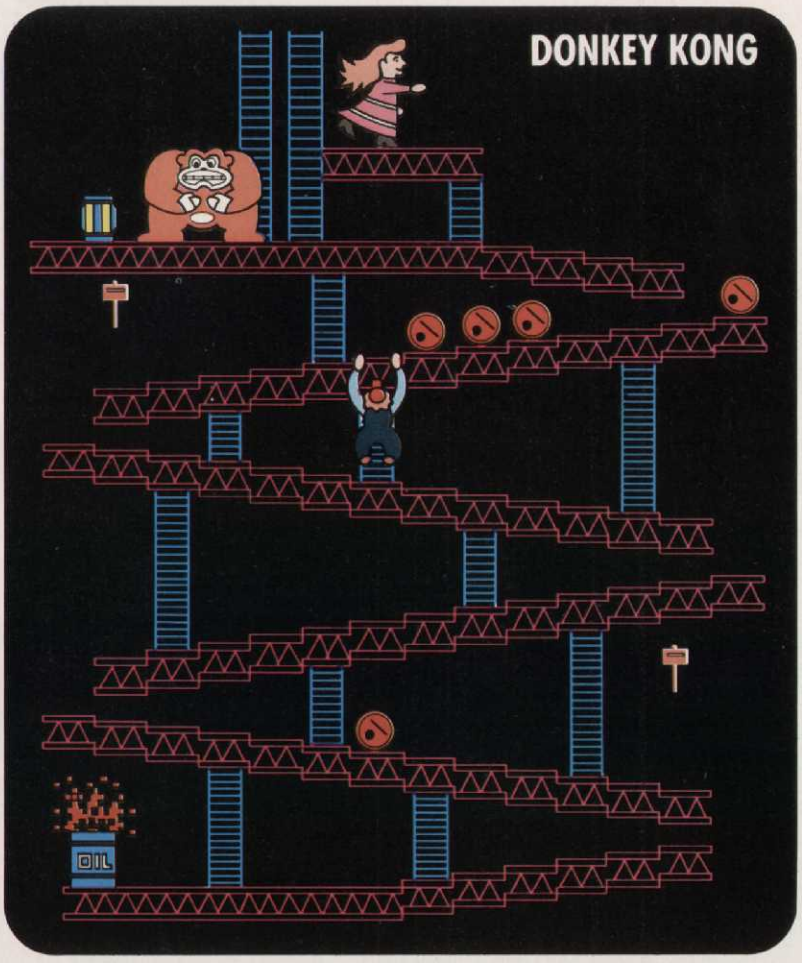
THE CRISIS...

You are on the middle of a ladder in **Donkey Kong.** Four barrels are rushing along the girder above you. You can't get up and hammer them or jump over them. The odds are that at least one barrel will roll down your ladder, killing you. You can't climb down in time. Can you do anything besides cross your fingers?

THE SOLUTION...

Yes! It is a little known fact that in **Donkey Kong,** if you place Mario's *hand* on the girder above him, no barrel will roll down the ladder he is standing on.* So climb up, put his hand up there, and watch the barrels roll by.

**Beware! Machines that have been "enhanced" eliminate this trick.*

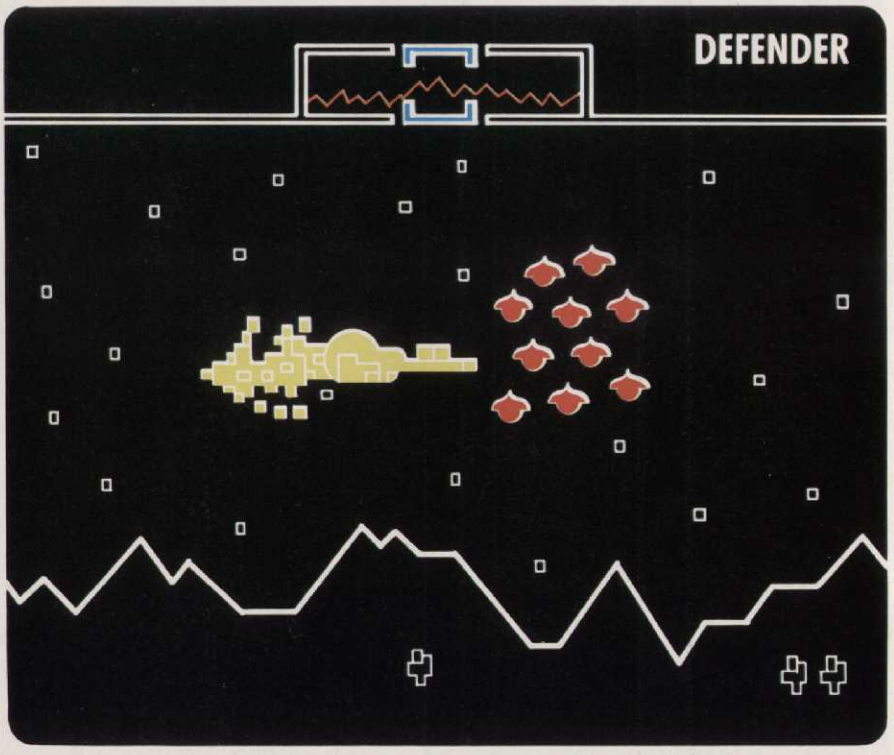


THE CRISIS...

While playing **Defender,** a stray laser blast from your ship has accidentally struck a pod, unleashing a gang of swarmers. Are you finished? Is there a safe way to dispose of this nasty bunch without using a smart bomb?

THE SOLUTION...

Don't run away! Swarmers do not immediately react to your presence as much as, say, a baiter does. They almost seem to have a blind spot, a place from where the player can attack before they retaliate. Remain close to the newborn swarmers and fire away. Once they reach either end of the screen, they will begin their offensive. Nail them to keep them from nailing you.

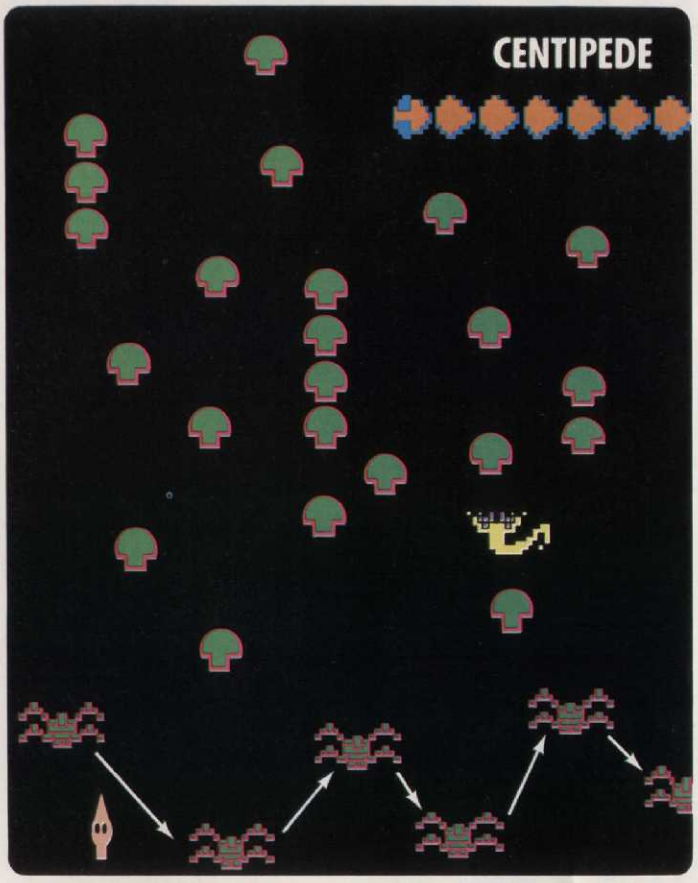


THE CRISIS...

You are near the left side of the **Centipede** field when the spider leaps out at you. You don't have time to get off a shot. Will moving up, down, left or right bring you to safety?

THE SOLUTION...

Left. Spiders cannot back-track. If one comes out of the left side, it will exit the right side and *never* move to the left. So if he jumps out at the left, you can move to the left of him and never be hit. If he jumps out of the right, you move to his right.

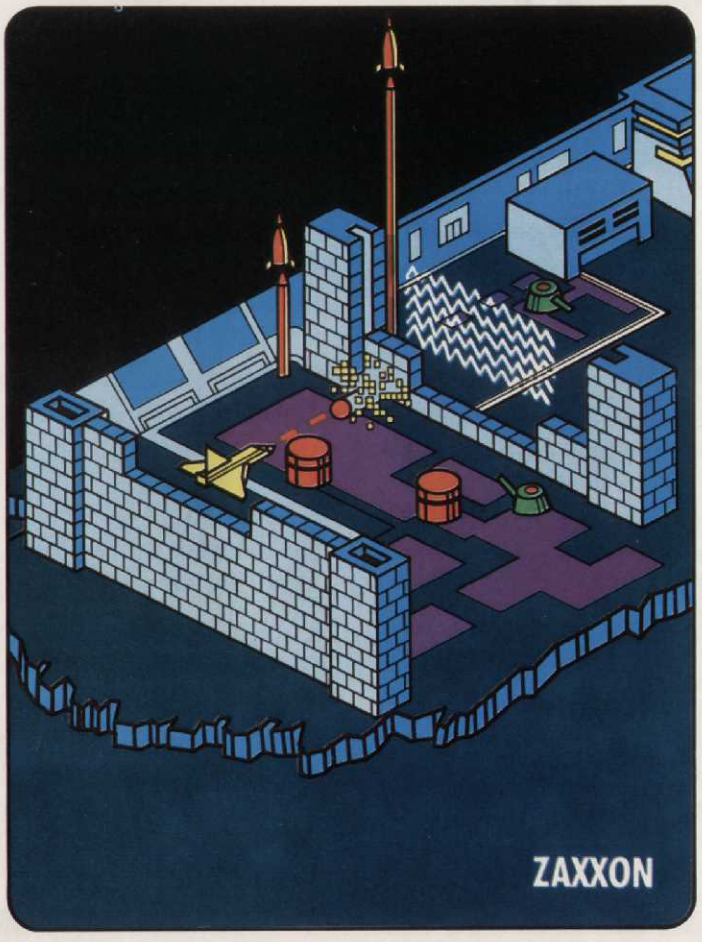


THE CRISIS...

In **Zaxxon,** you hear that weird hum that signals a homing missile has been dispatched to vanquish you. You cannot evade it. When you fire at it and hit it, nothing happens. How do you kill that homing missile?

THE SOLUTION...

The homing missile merely smirks when struck by one of your blasts. You have to hit it *six* times to kill it. Don't bother trying to do that with the trigger on the joystick—you can't get off six shots fast enough that way. Instead, hit your fire button like a hyperactive bongo player. The fire button has a much faster response than the trigger.



WHAT DOES DONKEY KONG HAVE TO DO WITH DONKEYS?

(AND OTHER GAMING TRIVIA)

Illustration by Kurt Vargo

RATINGS | **33-35- SIMPLY AWESOME** | **25-32-ALL TIME IMMORTAL**

1. What does **Donkey Kong** have to do with donkeys?

2. Name the one video game that is made up of five video games. What are they?

3. In 1976, a video game called **Death Race** hit the scene. Why was it so controversial?

4. How many dots are there on the **Pac-Man** board?

5. On its first day of existence, the original **Pong** game broke down. Why?

6. The control panel on **Defender** and **Stargate** are identical except for one thing. What?

7. What is RAM and what is ROM?

8. In which video game is the player represented by a paintbrush?

9. What do the following terms mean in video game jargon?

a. Bill Haley
b. Blue Light District
c. Four Course Meal
d. George Down
e. Mangiatorium

10. What is the name of the man you represent in **Donkey Kong**?

11. Name two popular arcade games that were designed by the same person.

12. In **Defender**, how many points do you receive for the following?

a. Landers
b. Bombers
c. Mutants
d. Pods
e. Baiters

13. What does the word "*ATARI*" mean in Japanese?

14. Odyssey's **Conquest of the World** assigns each country a "power base value" which is based on a formula created by a former deputy director of intelligence for the CIA. What is the formula?

15. How do you pronounce **QIX**?

16. Name the arcade game that has the designer's signature right on the cabinet.

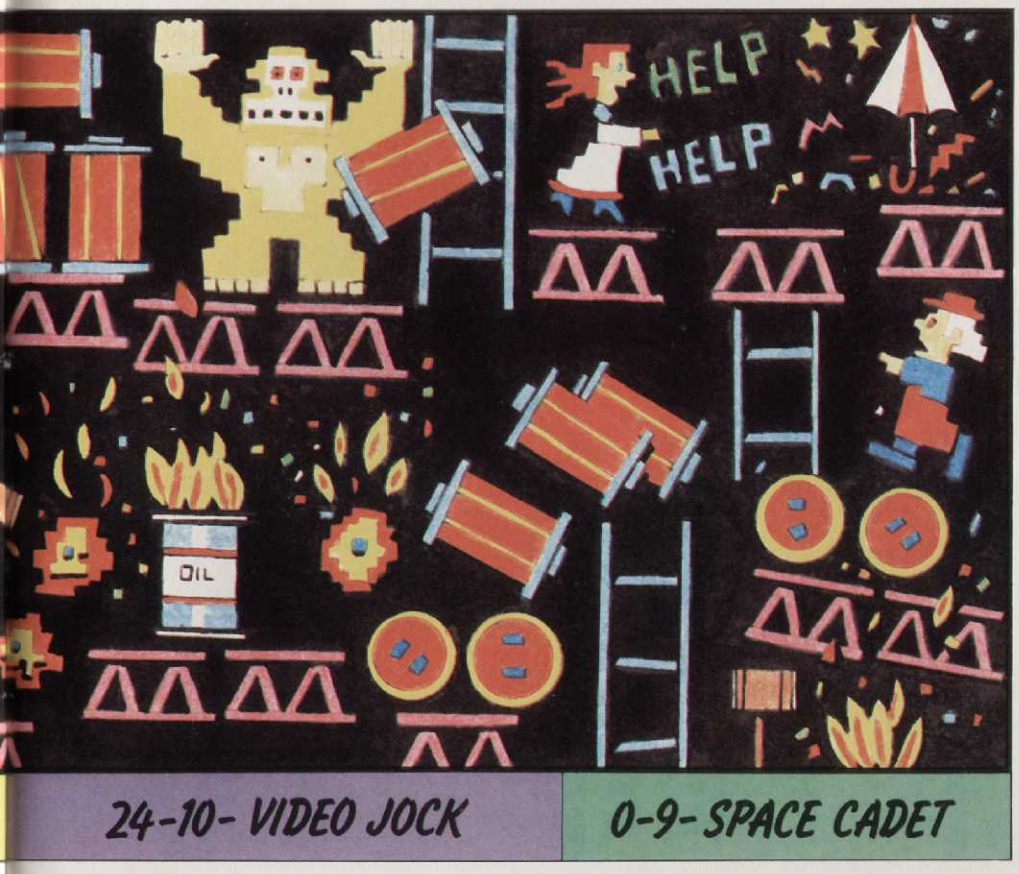
17. Name the Atari cartridge that has the designer's name right in the program.

18. What companies own the trademarks to these games?

a. **Galaxian**
b. **Stargate**
c. **Centipede**
d. **QIX**
e. **Scramble**
f. **Frogger**

19. What two video games have the same names as plays by William Shakespeare?

20. What is the biggest selling Atari cartridge of them all?



24-10- VIDEO JOCK | **0-9- SPACE CADET**

21. What happened on October 1, 1979 that influenced the history of video games?

22. How do you join the Activision "Bucket Brigade" and "Save the Chicken Foundation ?"

23. Name the video game companies you'll find in these cities...

a. Sunnyvale, California
b. Knoxville, Tennessee
c. Hawthorne, California
d. Columbus, Ohio

24. What do Craig Kubey, Michael Blanchet, Tom Hirschfeld and Ken Uston have in common?

25. What is the minimum number of Space Invaders on the screen for a Mother Ship to appear?

26. Name the most popular video game designed by a woman.

27. What does it mean to "turn a machine over?"

28. Who said, "My idea of retirement is to sit all day in a big, dark room playing **Space Invaders**?"

29. What is the heart of the nation's microcomputer chip center called?

30. Fill in the blank. **Space Invaders** is to Atari what _____is to Intellivision and _____is to Odyssey.

31. How many variations of **Space Invaders** can you play on your TV set?

32. What gave David Crane the inspiration to have a chicken cross the road in **Freeway?**

33. Name ten arcade games that have become home games.

34. Name four Atari cartridges that are no longer being made.

35. After the world is destroyed in arcade **Missile Command,** what does it say on the screen?

ANSWERS

1. Not much. The Japanese word for donkey can also mean crazy or stupid.

2. GORF. It's made up of **Astro Battle, Laser Attack, Galaxians, Space War** and **Flagships.**

3. In Death Race, you drove a car and tried to run over little human-like figures. When you hit one, it would squeal and a cross would replace it on the screen. A lot of people were not amused.

4. 240

5. Its coin box was overstuffed with quarters.

6. Stargate has an "Invisio Anti-Matter Cloaking Device," which makes your ship invisible and indestructable.

7. RAM stands for Random Access Memory and ROM stands for Read Only Memory. ROM is the game's program, which should never alter. RAM is temporary information, such as your score and number of ships you have left. Thanks for the memories!

8. Make Trax

9. a. A player who spends a lot of time at one machine. b. an area created by an anti-arcade zoning law. c. Eating all four **Pac-Man** ghosts on one energy pellet. d. Reserve a machine by putting a quarter (George Washington) on it. e. A pizza parlor with **Pac-Man** machines.

10. Mario

11. Dave Theurer of Atari designed both **Missile Command** and **Tempest.**

12. a. 150 b. 250 c. 150 d. 1000 e. 200

13. PREPARE TO BE ATTACKED!

14. Pp = (C + E + M) times (S + W) or Perceived power equals (critical mass plus economic capability plus military capability) times (strategic purpose plus national will)

15. KICKS!

16. Berzerk, designed by Alan McNeil of Stern.

17. Adventure, designed by Warren Robinette.

18. a. Midway b. Williams c. Atari d. Taito e. Stern

19. Tempest and **Othello**

20. Combat—it comes with every system sold.

21. Activision was formed, the first company established to make video game software exclusively.

22. Send Activision a photo of your TV screen showing 3,000 or more points in **Kaboom!** and one that proves you guided your chicken through traffic 20 times in **Freeway.**

23. a. Atari b. Odyssey c. Mattel d. Astrocade

24. They have all written books on how to beat the video games.

25. Eight is enough

26. Centipede, which was designed by Dona Bailey of Atari.

27. To run up so many points that the counter goes back to zero.

28. Walter Cronkite

29. Silicon Valley

30. Space Armada, Alien Invaders—Plus

31. 112

32. He saw "some maniac" trying to jay-walk across Chicago's Lake Shore Drive during rush hour.

33. Space Invaders, Asteroids, Frogger, Missile Command, Breakout, Circus, Pac-Man, Defender, Night Driver, Warlords and more.

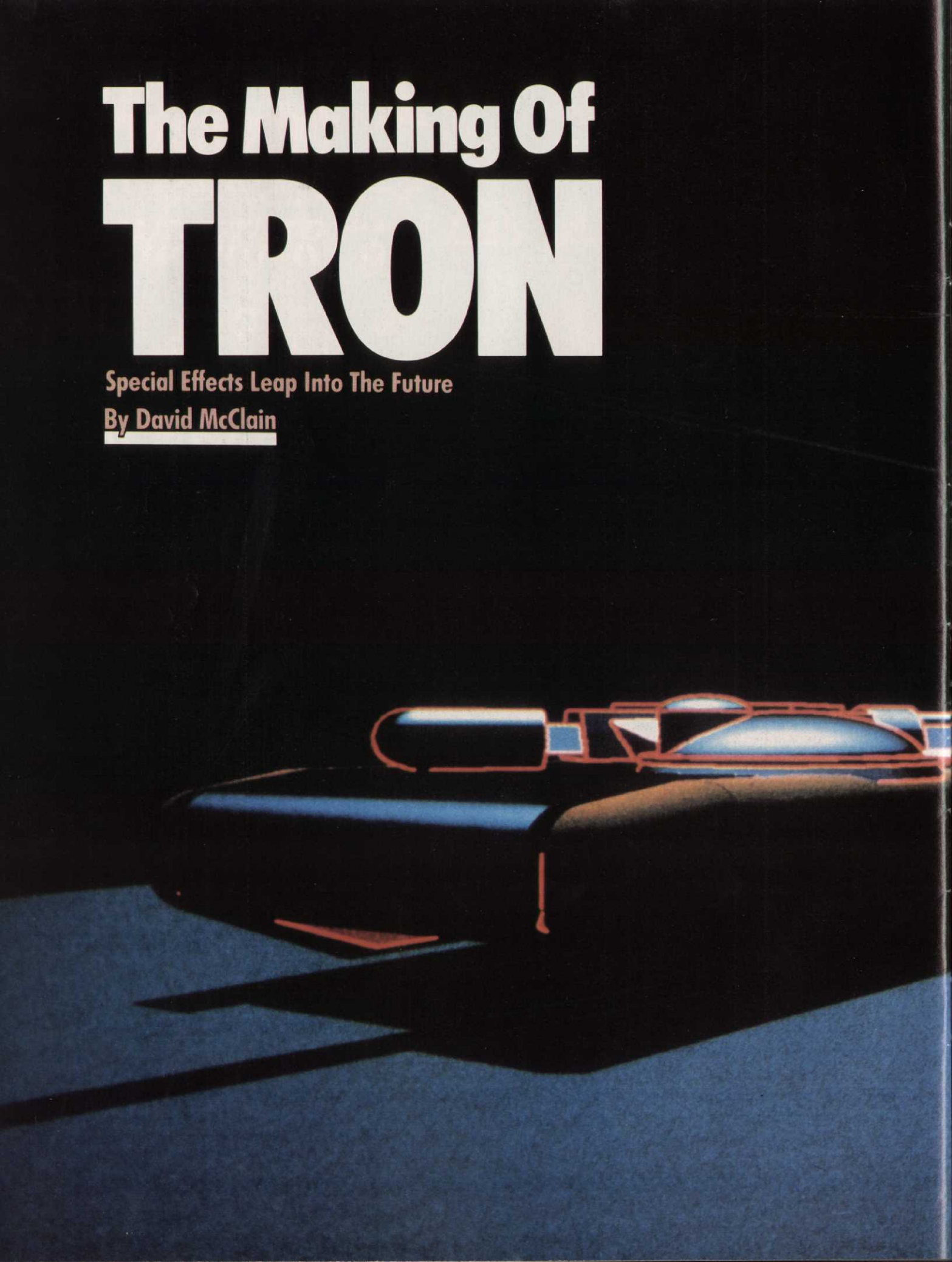
34. Star Ship, Slot Machine, Miniature Golf, Surround.

35. THE END!

The Making Of TRON

Special Effects Leap Into The Future

By David McClain



Let's pretend that the technology of moviemaking is really a spaceship. It "blasted off" in 1898 from the Menlo Park, New Jersey laboratory of Thomas Edison, who shot the first close-up (a guy by the name of Fred Ott sneezing at the camera) and the first movie with a story (*The Great Train Robbery*). By the late 1950s, special-effect technology was halfway to the moon: It was the era of Godzilla, Klaatu, and 3-D glasses. By 1977, the year George Lucas gave us *Star Wars*, movies had *landed* on the moon. But today we see the moon as our next-door neighbor in space. There are more distant worlds for us to explore.

Now—five years later—American movies are hurtling past Mars on their way to a drive-in on Alpha Centauri. *Tron* is proof positive that the computer programmer's art is racing alongside the animator's art at Warp Factor Five. It's no accident that the movie was brought to the screen by Walt Disney Productions, because old Walt was a true visionary. If he were alive today, he'd probably proclaim *Tron* his most exciting project since the days of the Davy Crockett coonskin cap.

Without taking anything away from the cast, which include Jeff Bridges, Bruce Boxleitner and David Warner, the unique thing about *Tron* is that you're looking at *ideas*, not models. In *Star Wars*, the warships piloted by Luke and Darth Vader were in fact tiny models photographed by a computer-controlled moving camera. But in *Tron*, there aren't any models at all. The motion is conceived and captured by an imaginary "camera" defined by the computer. The real camera is only used to take a picture of the frame-by-frame action choreographed by the computer's imaginary camera.

Tron is a futuristic adventure, naturally, which takes place in parallel worlds. It begins in the real world, which is rife with powerful computerized corporations such as ENCOM, an evil outfit that's trying to patch into the Pentagon's computers. This corporate mob is run by the aptly named villain, Dillinger (David Warner), who makes life miserable for a rebellious ENCOM employee (Bruce Boxleitner) and Flynn, a brilliant arcade owner (Jeff Bridges). Dillinger has perfected a laser which is capable of turning flesh-and-blood humans into electronic splat. Flynn gets "sucked into" this parallel world in which the computer user actually *becomes* his program. Bridges' character awakens to discover that he's been sentenced to death on a video game grid. His only ally is a warrior named Tron, who is actually the alter ego of the ENCOM programmer who's fighting Dillinger in the "real" world.

The laws of motion are completely different in this electronic world. When Tron and Flynn flee the villains on "electronic light cycles", the getaway vehicles look a lot like plain old motorcycles. But they move with the freedom and fury of electrons, making incredible high-speed turns at 90 degree angles!

Most of the live-action footage was shot against a stark black background so that the actors' movements could be integrated into this world where physical limitations don't exist. It's easier to make a getaway on the back of an idea, as opposed to a model or a real motorcycle. At times it's hard to tell just where the live-action footage stops and the computer-generated imagery takes over, especially when the electronic warriors start hurling their "identity discs" (which are really just frisbees tossed by frisbee champion Sam Schatz and filmed by the live-action cameras).

All photographs © Walt Disney Productions

"Battlezone" comes to life with TRON's computer-generated tank.

Jeff Bridges gives off a healthy glow at the controls of the video game tank. When Jeff filmed this scene, he was in a pitch black room. All the colored light was made in the computer.

The consulting artists and technical wizards who pooled their talents on *Tron* are some of the biggest names in special-effects and animation. Laboring over the *Tron* storyboards were industrial designer Syd Mead and comic artist Jean "Moebius" Giraud. Giraud, the reclusive French illustrator whose *Metal Hurlant* review inspired the American magazine (and movie) *Heavy Metal,* is not someone who can be lured away from his home easily. Giraud and his family live in a converted windmill high in the Pyrenees Mountains of France, yet he was so impressed by the plans for *Tron* that he crossed nine time zones just to work on it.

"For every second of screen time, 100 million bits of information were in the system."

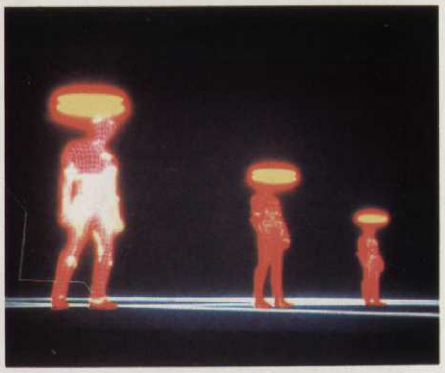
Harrison Ellenshaw, *Tron*'s co-supervisor of special effects, also supervised the matte painting for *Star Wars* and was part of the optical-effects team that won an Oscar for *The Empire Strikes Back.*

Richard Taylor, in collaboration with Larry Elin from Mathematic Applications Group, Inc, (MAGI) in New York, had the ultimate responsibility for the design and programming of *Tron*'s computer-generated sequences. Taylor had left his mark on the advertising world with a series of many-splendored commercials for Levis—you know, those animated jeans spots that put Saturday morning cartoon programs to shame.

The coordination of the entire project was the task of first-time director Steven Lisberger, whose production company had done imaginative feature segments for such shows as *Nova* and *Make A Wish.* In 1980 Lisberger conceived and produced a 90-minute animated film called *Animalympics* to coincide with NBC's coverage of the '80 Summer Olympics. Even though America pulled out of those games and NBC was left high and dry, the executives who saw *Animalympics* were awed. That opened the door for Lisberger's *Tron* assignment from Disney.

Since most of the fine-tuning of *Tron's* computer imagery was done by Larry Elin and the MAGI staff in Elmsford, New York, we spoke with Larry to get a layman's eye-view of the process which put so much pizzazz into *Tron.*

"Just think of the computer as a box full of tiny shapes you can reach into," Elin

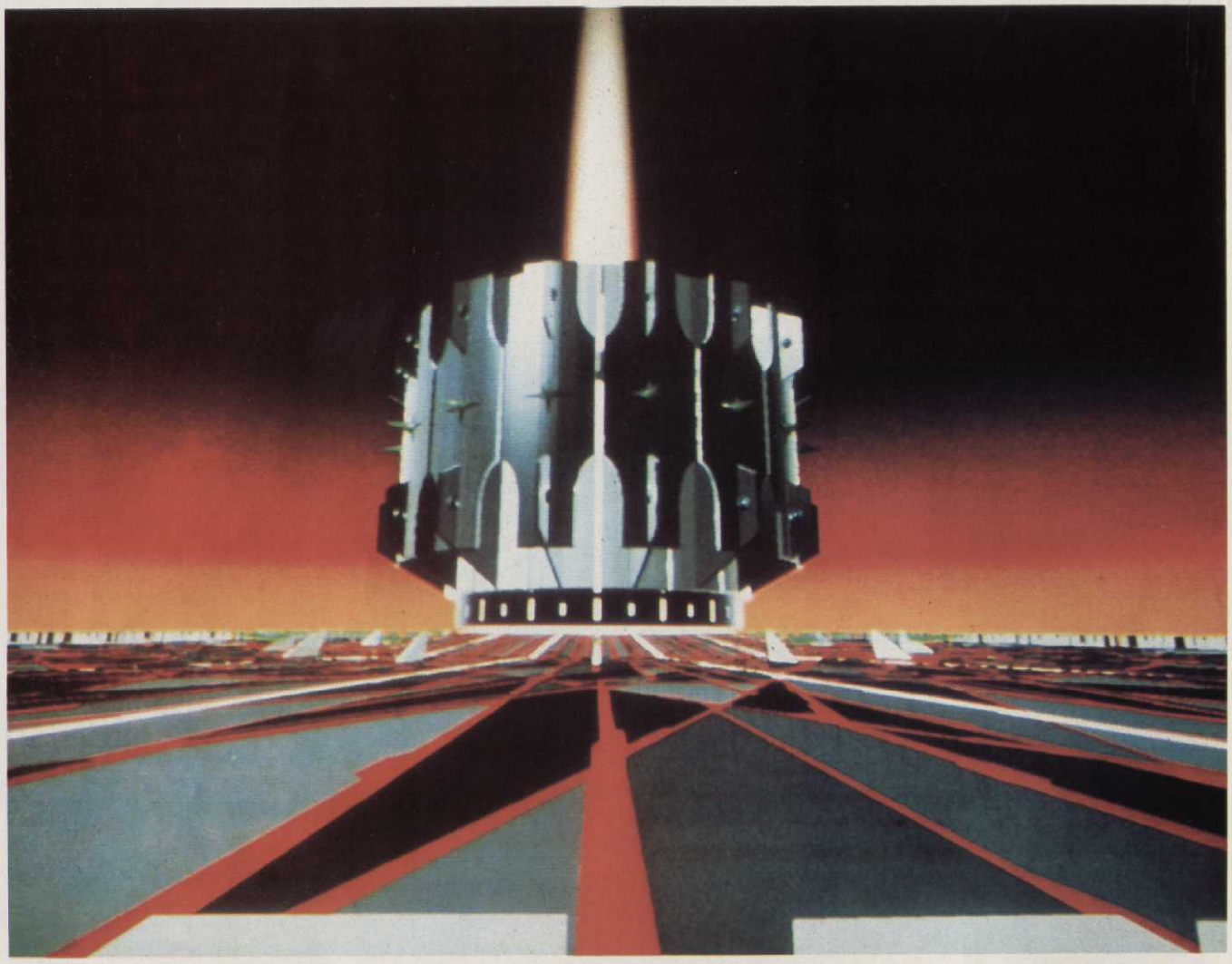


Unlike Star Wars, there were no miniatures in TRON. All effects are computer-generated.

explains. "And from these simple components you can then make more complex shapes. So in the beginning, we needed to define three things: We needed objects to photograph, a camera to photograph them with, and a light source to illuminate those objects. Richard Taylor, in collaboration with all the people who worked on the storyboards, knew what the spaceships and towers and other objects should look like. Defining the camera was very easy. Basically, we told the computer that the simulated camera should have a certain focal length and then we defined the size of the image plane. That's it, basically. Modifying the light source data was trickier because that stuff changes so much during any given sequence." In computer-generated imagery, you only need to define the object once. It's the other variables—

CONTINUED

Actually, Bruce Boxleitner was shot on black and white film. Disney's painters inked each frame, then reshot them through colored gels.

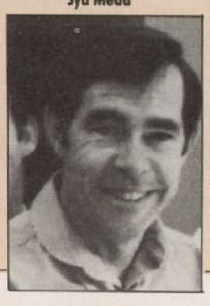


TRON takes place in parallel worlds, an idea inspired by the classic *Alice in Wonderland.*

THE MEN BEHIND THE COMPUTERS

It took a tremendous number of people working together to complete TRON, and here are just a few of them. Writer and director Steven Lisberger worked on TV shows like *Make A Wish* and *Nova*. He has been researching the technology for TRON since 1979. This is his first full-length feature. Syd Mead was called in to design the computer "light motorcycles" you see on the opposite page. French artist Jean Giraud first achieved a cult following for his "Lt. Blueberry" comic strip. He also worked on the movies *Alien* and *Dune* and was one of the founders of *Heavy Metal* magazine. High-tech artist Peter Lloyd served as TRON's color stylist and background designer. Also on the TRON team was Harrison Ellenshaw, who won an Oscar for his matte painting in *The Empire Strikes Back*, and Richard Taylor, who is famous for his animated Levi's 7-Up commercials.

Steven Lisberger


Syd Mead

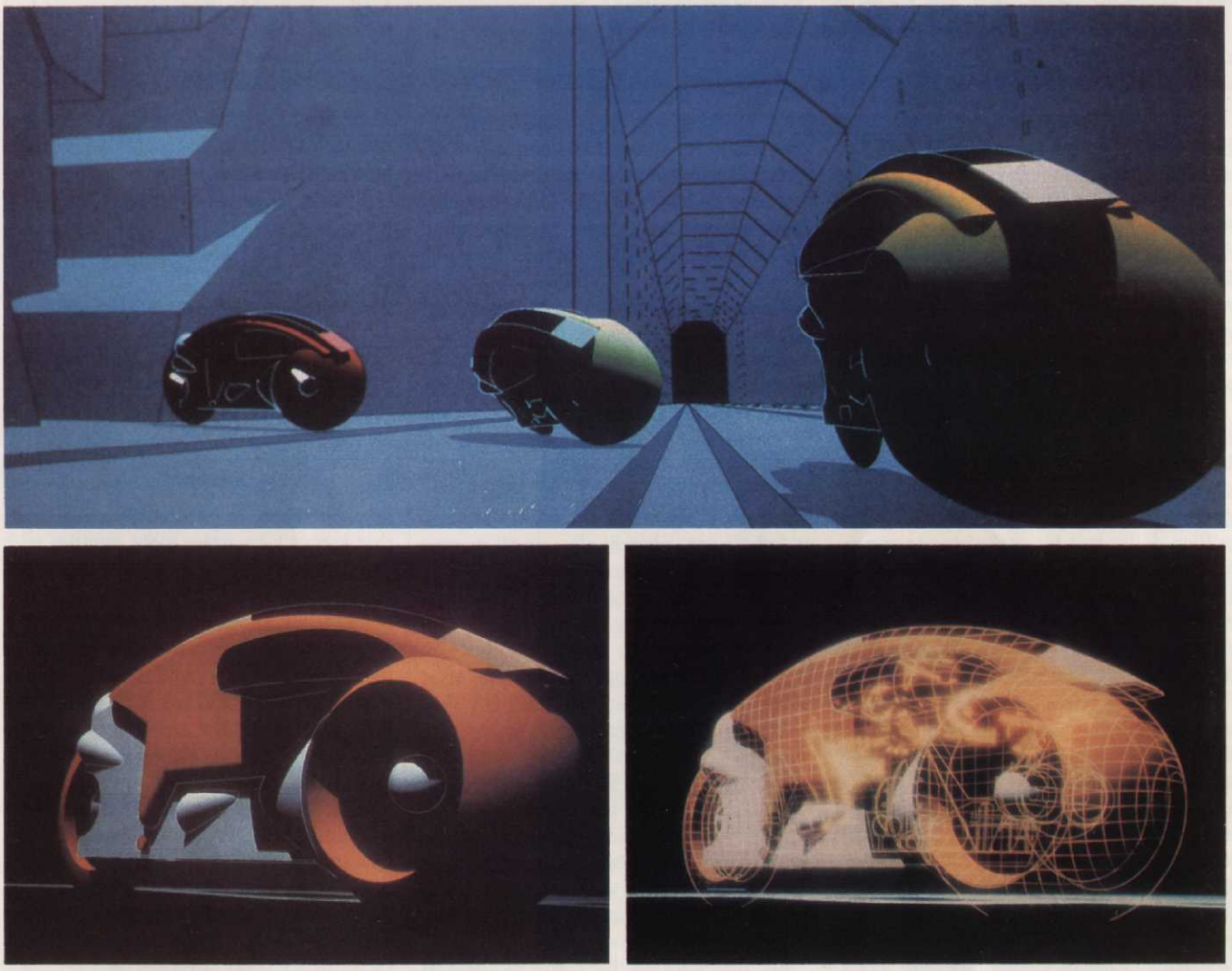
Jean Giraud

Peter Lloyd

camera data and lighting data—that eat up most of the production time.

So after the initial information gets fed into the computer, how do the animators make minor modifications in color, shading and perspective? Simple. They use those two little mechanisms in the front of their heads known as *eyes*. "Our studio monitors are very sharp," says Elin. "On most home computers, the resolution is roughly that of a normal TV set. But on our studio system, we can get about a 1000-line resolution. Using what's known as a modem, we can send the picture that appears on our computer monitors in New York over phone lines to Richard's office in California. He sees the same images we're looking at, and he can make suggestions and changes.

"When the frame is finished to everyone's satisfaction, then we photograph the image as it appears on a very high-resolution *6000*-line screen," Elin continues.



Three human video game warriors metamorphose into these "electronic motorcycles" and have a race to the death through a simulated landscape. The motorcycles, not being bound to the physical laws of the real world, have the ability to make instant high speed 90-degree turns.

That's why *Tron's* color and contrast are so mind-boggling: Its animation was shot from a computer CRT screen so advanced that it makes the Sony Trinitron picture seem like your old Brownie box camera.

Elin, Taylor and associates used a very large minicomputer system called Synthavision. "An Apple is a harmonica compared to the tasks our mini performs," laughs Elin. Indeed, for every second of animated screen time in *Tron,* there were some one hundred *million* bits of information that were fed into the computer. That's why MAGI needs computers with vast storage and retrieval capabilities.

"I want to stress, however," says Elin, "that animators who work with computers are not really programmers or mathematical whiz kids. These computers are very 'user friendly,' which means that we're not dealing with the binary system—with a complex series of zeroes and ones. We're animators first and foremost. We're engrossed in the study of motion—how heroes move as opposed to villains, and that kind of thing."

And how were the live-action scenes with Bridges' barrel chest and Warner's jutting jaw merged with the computer-generated images? "Every live-action frame was shot on high-contrast black and white film in much the manner that you'd shoot any movie" Elin explains. "Then each frame was blown up and, based on our computer-generated images defining the motion and locale, Disney background painters inked or matted each frame, which then got reshot through color gels."

Most of *Tron*'s cast members felt that the live-action shooting, by virtue of its being an incomplete portion of a very complex project, was physically demanding. But the computer wizardry of MAGI and Taylor's Information International, Inc. made a believer out of crusty, 66-year-old Barnard Hughes, the Tony-winning actor with a key supporting role in *Tron.*

"I don't think I'll ever understand computers or what they can do," chuckles Hughes, "but the people who worked on *Tron* had this almost mystical attitude about what is possible with computers. It was a feeling I tried to bring to my scenes."

We think you'll agree with Barnard Hughes. There *is* something mystical about watching computer-generated images defy every physical law in our universe. Unlike any earthly objects, computer-generated images can ignore gravity, reverse direction at 200 miles-per-hour—why, they can even pass *through each other* like phantoms. Even though these phenomenal special-effects create what director Lisberger calls "a counterfeit reality," there's nothing phony about the enjoyment this Walt Disney film provides.

The real question is—are there even more distant worlds out there for moviemakers to visit?

VIDEO GAME WARS

CONTINUED FROM PAGE 40

That makes sense. You can make a lot more money selling razor blades than you can selling razors and the same is true with video game software and hardware. Since Atari was only releasing about a game a month, there was a tremendous demand for new games. As with the recording business, a $2,000 stereo system isn't much good if you have to listen to the same records over and over. Activision games were big hits right away.

While Activision felt (and rightfully so) that forming the new company was simply fair competition, Atari felt (also rightfully so) that Activision was taking money out of daddy's pants pockets. Atari filed a twenty million dollar suit for conspiring to appropriate company trade secrets. The litigation was settled in December, with Activision agreeing to manufacture video games under a technology license from Atari, whatever that means.

For obvious reasons, Atari keeps an eye on its employees like the KGB watches ballet dancers. Security is tight and workers are asked to sign confidentiality agreements. In the Atari labs, you have to use a magnetic ID card to get from one locked corridor to another. While Activision touts its designers on each cartridge box, the names of the Atari designers are off limits. One of them cleverly got around this—if you perform a complicated series of maneuvers in the Atari game Adventure, the screen lights up with the words, "Created by Warren Robinette." Atari didn't know about the kink until the game was in the stores. Customers got such a kick out of finding Robinette that Atari has loosened up and plans to plant more clues in future cartridges.

Being this young industry's founder and leader, it is necessary for Atari to have a legal commando team whose mission is to seek out copyright infringements. To boldly sue where no one has sued before, so to speak. They really sunk their teeth into Odyssey's K.C. Munchkin. Owning the home rights to Pac-Man, Atari sued in Chicago Federal Court when Odyssey attempted to get their home gobbler game out first. The court agreed that K.C. was rather Pac-like and must be taken off the market. Odyssey appealed and won—the Munchkin sold like hotcakes. But then Atari appealed that decision and poor K.C. went back to the warehouse. Odyssey says they'll appeal. Stay tuned.

It has certainly cost millions in legal fees, but Atari has successfully kept various gobblers, munchmen, and other assorted Pac-Clones off the market. They *did* lose one battle, though. The computer game Jawbreaker refused to be engulfed by the Atari attorneys. Though the game closely resembles Pac-Man, Jawbreaker has a set of teeth, while Pac-Man gums his way through the maze.

The video game companies seem to be issuing as many lawsuits as new games. Astrocade went so far as to send Mailgrams to the press proclaiming they would announce a "major patent infringement lawsuit" at this summer's Consumer Electronics Show. Oh yes, the Mailgram added, "Astrocade will also unveil its new line of video game cartridges."

The Astrocade suit charged Atari and Commodore had allegedly infringed on the patent covering the video display technique of "bit" mapping. I asked some Atari people about the case, and basically they responded, "Astro-who?"

Topping the Astrocade case, Walt Disney Productions has filed suit against Williams because of the game Robotron 2084. Disney claims they own all rights to the word "TRON." The next thing you know, all electrons and other atomic particles will have to be recalled unless they have pictures of Mickey Mouse on them.

Ah, one harkens back to the days of Space Invaders when being a consumer was peaceful. Now we have to decide between Space Duel, Space Chase, Space Battle, Space Fury, and Communist Mutants From Space. We've got companies we're never even heard of, like Spectravision, Tigervision, CommaVid, and Data Age, pouring out games. We've got the big software companies waiting to license hit arcade games like vultures circling over dead meat. I guess this is what they call American capitalism.

And when you think about it, it's a good system. It's survival of the fittest. There's a lot of money out there to be made and a lot of people want to make it. They are all competing for *your* quarter, *your* dollar. And they had better be good. When Atari comes out with their new 5200 game system, Mattel comes out with their Voice module. And you can bet Atari has something fantastic up its sleeve to try and top it. If they don't, somebody else will. In The Video Game Wars, some of the weaker soldiers will no doubt perish. But there will be one clear winner—you!

BIG DADDY

CONTINUED FROM PAGE 22

Time Theater and then pointed to the dismal profits whenever Bushnell tried to convince them to expand.

Finally, Nolan decided he was through with Atari. The pizza business is "more fun than games," he declared. He bought back the rights to Pizza Time Theaters from Atari for $500,000. Then he resigned.

New Smash

Pizza Time Theater was a hit from that moment on. This childlike guy just seems to know what kids like. Imagine the face on an eight-year-old walking into one of Nolan's new shops: Wow, more than a hundred video games in glistening rows off to one side; then, in the center a real stage that comes alive every eight minutes with this funny rat telling silly jokes and introducing other singing robot animals, including Jasper T. Jowls and Harmony Howlette, a country and western coyote that sings like Loretta Lynn. And finally—pizza. What more can a kid ask for? It's the perfect day-club for the swinging pre-pubescent set.

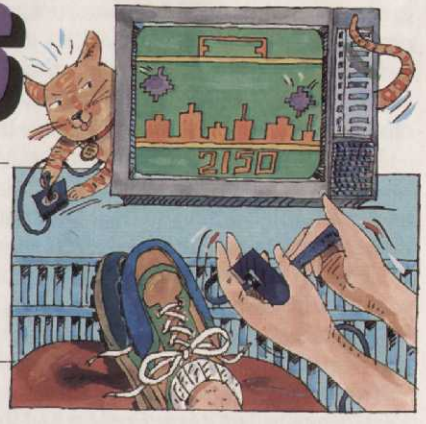
This time Bushnell went public with his stock from the start, while retaining a controlling interest. It opened at $15 a share. Last seen it was $25 and rising. Bushnell is now estimated to be worth over $70 million. There are about a hundred Pizza Time Theaters in the U.S., Canada, and Australia. Bushnell estimates he'll have 800-1000 in operation by 1985, and he predicts that five years after that, Chuck E. Cheese will be more familiar to kids than that little mouse with the big ears.

No wonder it doesn't bother him that Atari really blossomed under the careful businesslike Warner management. Or that the programmable home game really hit it big the year after he left. Or that another project he'd breathed the first life into, Asteroids, became a monster smash coin-op game. Or that, for the last two years, Atari has been making more money for Warner than its movie company. To Bushnell, the real reward is the magic of creation, not just the bucks.

What's next? No one knows. In fact, we can be certain of only one thing about Nolan Bushnell: There'll be more surprises. A reporter once asked him why he doesn't retire now that he's made his fortune. Bushnell replied, "That would be boredom. Some people were meant to build things."

Move over, Walt Disney. The man who slew pinball is gunning for you.

FALL 1982 COMPLETE HOME VIDEO GAME BUYER'S GUIDE



Which is the best system for you? Which cartridges are great and which are duds? How should you spend your video game dollar? Turn the page and find out!

So, you want to buy a home video game system and suddenly you're faced with a choice. A vast choice. Choosing a system has become, in recent months, an Herculean task. If you had had better timing, you'd have gone for the consoles about two years ago when there were only three of them available. Instead, you waited until now, and you've got to choose from among at least five system. That's the price you pay.

Actually, you did the right thing by waiting. Although your choice is harder, it is from among better systems with a wider range of features to offer you. So you didn't do badly after all. Don't you feel relieved?

There are a few things you ought to know before we go any further; simple terms you're likely to come across while searching for the home video game system that's just right for you.

Illustrations by Kris Boyd

This refers to the console, the system on which the *software* (next word) is played. The *software* refers to the game cartridges themselves, the stuff of which games are made.

The system works as follows: Inside each console is a CPU, or central processing unit which is the hub around which everything turns. The CPU extracts information from various inputs and transfers it to the TV screen.

Within each cartridge is a RAM and ROM chip. RAM (random access memory) is the changing information, such as your game score, while ROM (read-only memory) is the unchanging information, such as the rules of the game (although there are times I, for one, wish the rules would change a little and let me *win* for once).

The CPU takes information from both the chip and the player's input (your orders given through the joystick) and sends it almost instantaneously to the screen.

There are different kinds of software with cartridges being the most common. Unfortunately, you cannot play any old cartridge on any old system.

This is the beauty of free enterprise. Each company has its own system and format. Therefore, if you own, say, an Atari VCS, you can't play Intellivision games on it. This is another good reason to choose your game system wisely. Let's get on to the available systems.

ATARI

The Atari system is one that offers the widest selection of games for play on it. The VCS 2600 costs about $149 though it can be had for as little as $120. It consists of a console with several switches, including one that varies the difficulty from (a) to (b) with (a) being the most difficult. (Guess what (b) is) The system also comes with four controls: two joysticks and two paddle controls. The joysticks feature-eight position movement and each has a red "fire" button. The paddle controls (used with games such as Circus Atari and Kaboom!) also feature a red fire button, though in a different location. Sold separately is a set of Atari Keyboard Controllers for use with some of the educational cartridges available from Atari.

For the most part, the player will deal with the joysticks. If you're used to playing arcade games, these are going to be sorry disappointments. The joysticks offer neither the precision nor the sensitivity of the arcades. However, it is unfair, I believe, to compare them with the arcade joysticks. If you think of them as an entirely different species and get used to them that way, you'll be better off.

The VCS has the widest selection of cartridges available but it is important to note that the graphics on the unit are chunky at best. The asteroids in Asteroids look like nothing so much as pieces of colored popcorn and not very tasty popcorn at that. The rocket is awfully clumsy to have gotten that far into space.

But if you've waited this long, think about waiting just a little but longer for the new Atari system due out next month. Called the "System 5200," this one is going to beat everything. No joke. Priced at about $210 (marked down from $349 list), the 5200 offers improved graphics, and several features not found on any other system... so far.

The controllers are closer to Intellivision's in that they have a small calculator-sized keyboard and the firing buttons are located at the side towards the top. There is a speed control built-in which, on specific cartridges, will allow the player to speed up the action. In addition, the joystick offers 360 degree mobility instead of the usual eight positions. Also found on the control is a "pause" button which enables the player to put any game on hold for as long as he likes. Say your friend is beating the pants off you in Defender. Simply put the game on hold until you are ready to resume play. Like after he moves away. The game will pick up exactly where you left it when you come back. And while the game is in the pause mode, the screen will constantly change colors to prevent phosphor burn from occurring.

Atari 5200

I saw Pac-Man played on this new system, and let me tell you it is great! The graphics are easily as good as the arcade version and even include those intermissions which you get to see if you're good enough. I, for one, have never seen them.

The bad news is that the 5200 is not compatible with the 2600. This means all the software you have bought for the VCS will not fit into the new system.

The good news is that there will soon be an expansion module sometime in the future for the 5200 which will make it VCS

VIDEO GAME SYSTEM RATINGS

SYSTEM	Controllers	Graphics	number of cartridges available	Expansion modules	Overall rating	$
ATARI VCS 2600	C	C	100+	None	C+	125
ATARI 5200	A	A	14*	Voice, VCS	A	210
ODYSSEY²	C	C	40+	Voice	C+	125
ASTROCADE	A	B	25	Computer	C+	210
INTELLIVISION	A	B	40+	Voice, Computer**	B+	210
COLECOVISION	A	A	22*	Atari, Driving	A	200

A—excellent, B—great, C—good, D—fair, F—flunk out
*With Atari VCS adapter, all 100-plus cartridges for the Atari VCS become compatible.
**Not yet available

compatible. So don't throw all those games away yet.

Atari is perhaps the strongest with arcade titles. See, it has a distinct advantage in that it also has a coin-op division, which means that it doesn't have to go too far to buy the rights to any popular arcade game. Its vast library of software includes Asteroids, Space Invaders, Defender, Missile Command (which, incidentally, is one of the better translations) and Pac-Man, which, on the VCS, is just awful. The ghosts are hard to see and just *forget* about the joystick. (The 5200 has corrected all this and there's hardly a negative thing that can be said about the new system.)

In addition, there are presently about 16 independent software manufacturers all making games for the Atari system. (see next section). So if variety is what you're looking for, Atari is the system for you.

One added note—if you're going to spend more than $200 for any video game system, you might think about getting a home computer instead. They also play games and the prices are getting lower and lower.

INTELLIVISION

Mattel's Intellivision system outdoes the Atari VCS in as far as graphics goes. Priced at around $210 if you shop around the Intellivision is very strong in the way of two person sports games. The baseball cartridge, for example, is superb with each player independently controlled.

The console comes with two controllers, both with calculator-sized keyboards and disc/joystick combinations as well as two firing buttons on the sides. Each game comes with an overlay which fits over the keyboard and further defines the function of each key in that game. So in the baseball cartridge, the overlay is a baseball diamond and each player corresponds to one of the keys. It is awkward, however, and the overlay keeps slipping around so you're liable to be throwing the ball to right field when you think you're pressing your shortstop. It's best to memorize who each key stands for as quickly as possible and to learn to "touch play," as the time spent glancing up and down could cost you the pennant.

The baseball cartridge is wonderfully detailed. The players run out amid cheering crowds. You can have a rousing warm-up catch in the outfield before the pitch. Pitches can come in fast or slow, curved or straight. The one complaint I have is that there are no walks. In fact, if a ball is inside and hits the player, it simply passes right through him. This makes it difficult to put any real confidence behind the density of your players.

Intellivision offers about forty cartridges divided into six categories: sports, space, action, strategy, gaming and children's learning. In addition, several independent software manufacturers have begun producing games for Intellivision as well—thus the library of games should expand.

Intellivision stresses thinking games over pure action games, and two-player games over single player games. So if you just want to sit down for fifteen minutes by yourself and blast some aliens, the Atari system is better for you.

Intellivision with Intellivoice

INTELLIVOICE

Sometime later this year, Intellivoice is coming. Intellivoice is a module which attaches to the Intellivision system and, when played with new cartridges such as Tron: Solar Sailor and B-17 Bomber, adds voice—not just sound effects—to the game. For example, in B-17 Bomber, one of the voices giving occasional advice to the player sounds just like John Wayne. I swear.

The module will cost under $100 and regular Intellivision cartridges can be played on it, but without enhancement.

It bears mentioning that there will be a keyboard add-under to be attached to the Intellivision, making it into a personal computer on which you will be able to learn languages, plot family budgets and learn Basic programming.

ODYSSEY²

Odyssey two is like the poor relative of the previous systems. Whether it's because it doesn't receive enough advertising to get attention or doesn't receive enough attention to merit further advertising support, I don't know. It just doesn't seem able to keep up with the other systems. The games, however, are not bad. There are over 30 cartridges to choose from but none, so far, is an arcade title.

Odyssey²

The console has a keyboard, and in this way Odyssey² is significantly different from the other systems. The keys are flat, unlike a typewriter and each key can perform a specific function depending on which cartridge is plugged in. The graphics are fair, not great, not as bad as Atari's VCS. But where Odyssey really falls down is in its sparse game selection. The best cartridge—KC Munchkin—was taken off the market after a suit was filed by Atari charging KC with being too similar to Pac-Man. Odyssey plans to release another cartridge—KC's Crazy Chase—soon, in which KC will return. And a good thing, too. KC was much better-looking than the VCS version of Pac-Man. He smiled each time he stopped gobbling and often, I would stop the game and risk being eaten just to see him grin.

The keyboard is really the key difference. With the Keyboard Creations cartridge, for example, the user can program in messages, times, and alarms, something that cannot be done on Atari or Intellivision.

And the keyboard makes the difference between Odyssey's new voice module and Intellivoice. There are new games to be played on The Voice but, in addition, you can put messages on the screen and The Voice will speak them to you when you press the "enter" key. The Voice can pronounce just about anything, although it does tend to be phonetic about it—pronouncing "weather" as "weether." It is also very poor at hailing taxicabs.

Odyssey also is strongest in the video/board strategy game area. Offering three games in its Master Strategy Series, which use both boards *and* screens. They are Quest For the Rings, Conquest of the

World and The Great Wall Street Fortune Hunt.

The console, including the Speedway, Spinout and Crypto-Logic cartridge, runs about $199.95 list price. The Voice lists for about $99.95 and cartridges range from $34.95 (for voice games) to $49.95 (Master Strategy Series.)

COLECOVISION

ColecoVision will be rivalled only by the Atari 5200. ColecoVision is indeed a third generation video game.

The controllers are everything rolled into one—small keyboards, paddle controls and joysticks with a speed roller similar to the one on the 5200's controllers.

ColecoVision's graphics are superb. Just superb. There's none of this chunky, angular blocky resolution found in the other games. Coleco's screens are rounded and very clear and all its reproductions of arcade games are about as close as anything has come so far. Its Donkey Kong cartridge, for example, is almost an exact duplicate, graphically as well as in play, of the popular arcade game.

ColecoVision

And Coleco has done a very smart thing. It has an Atari expansion module which attaches to the ColecoVision console and allows the player to play *all* the Atari cartridges available. All. From all the manufacturers. This means the owner of the Coleco system has the most comprehensive software library of any other system. It should be pointed out that when Atari VCS games are played on the Coleco expansion module, the graphics do not improve. Rats.

Coleco plans to have other expansion modules as well. Its second will be a driving module for use with games such as Turbo. It comes with a steering wheel and accelerator and greatly enhances game play.

The ColecoVision is under $200 and the expansion module runs about $60. Each cartridge is in the neighborhood of $32.

Astrocade

ASTROCADE

Astrocade is the latest name change for what once was the Bally Professional Arcade system. For some reason, this system is simply not well known. Not known well, that is. And this is unfortunate because the graphics are terrific and there is one game in particular which is quite unique. But first to the console and controllers.

The Astrocade console has a calculator built into it which is used when playing the unique game mentioned above as well as when using the Astrocade Basic cartridge. See, the Astrocade is also a personal computer and Basic programming can be learned from this cartridge. The keyboard might be a little small but otherwise it is quite efficient.

As are the controls. They are models of efficiency. Shaped like pistol handles, they have triggers for firing buttons and a small knob on the end which doubles as joystick and paddle control. They are easy to hold and easy to use. And they're quite precise, too.

Of the games I've played, I have found none really exciting. All seem to be copies, and not excellent ones, of existing arcade games. Some games are much better than others. The graphics and precision of the controls make playing on this machine a pleasure.

The console (which costs $299—but remember it is a personal computer of sorts, too) comes with three resident games—which means they live there and require no cartridge. They are Gunfight—a shoot out at the Video Corral, Checkmate—a strategy game, and Scribbling, the unique one. Scribbling utilizes the controllers and keyboard to turn the player into a video artist. Varying color shade and intensity, the player can draw just about anything on his TV set.

The controller becomes a paintbrush with the joystick determining the width and length of the stroke. Quite remarkable, really. In fact, I would say Astrocade's greatest strength lies in the creative cartridges of which there are two more—Creative Crayon and Music Maker, which enables the user to compose and play back music. Just remarkable!

GCE

General Consumer Electronics is the newest and, in my opinion, one of the most significant entrants in last few months. Their system Vectrex will be a major contender in the video game arena.

Vectrex is a self-contained system—meaning it is not played on your TV set. This is an advantage not only because it frees up the TV but also because the graphics on Vectrex can be—are—outstanding. It uses a Vector screen—as opposed to the vaster screen found in TV sets—which gives the illusion of 3-D. The driving games particularly are outstanding, with the distance perspective almost frightening. At one point during the game Hyperchase you enter a tunnel so realistic you feel claustrophobic.

The control panel consists of a small 360 degree joystick and four buttons, each with a different function depending on the game being played. Vectrex has a black and white screen, so each game also comes with an overlay which adds color to the graphics.

There are thirteen games available, including the resident game, Mine Storm. The system runs about $200 and will be available early this fall.

There are at least five other manufacturers, including Emerson, SJA, Video Technology Inc., Entex, and Tryom but, at present each is simply, in my opinion, a facsimile of the ones we've just covered.

SOFTWARE

Every company manufactures games for its own system. Thus Atari has a line of over 60 cartridges for its VCS and, so far, 14 for the 5200 including Pac-Man, Space Invaders and Qix. Mattel has over 40 games for the Intellivision. However, in addition to making games for themselves, several of them have taken to making games for their competitors as well. The Intellivision M Network is devoted strictly to games for the Atari VCS, including translations of such popular Intellivision titles as Astrosmash (called Astroblast) and Baseball (called Super Challenge

Baseball). Coleco markets games for both the Atari and Intellivision systems. So its most popular games (such as Donkey Kong) are available in all formats.

But, more importantly, there are currently about 15 software-only manufacturers, all making software for the Atari VCS. This naturally expands the library available for that system and is something the buyer should take into account. While several companies are beginning to make games for Intellivision, most of the attention is concentrated on the VCS. Remember that.

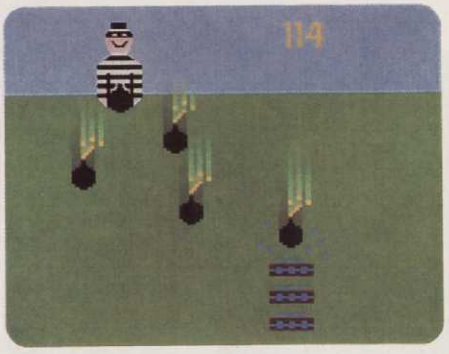
Among these suppliers are some well-known ones who we will describe in greater detail here. Others will be noted for your information, but won't be dealt with in too much detail. There is only so much a writer can do before wanting to destroy her typewriter.

ACTIVISION

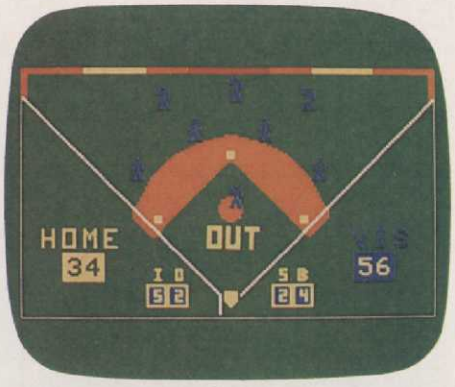
Activision is the oldest and largest of the software companies making games for the VCS. Among the games offered are Laser Blast—an award winning space game; Kaboom!—in which a mad bomber drops, well, bombs, and you have to catch them before then hit the ground; and Freeway—the old joke in which you have to get a chicken safely across one of eight major highways at rush hour.

Activision currently has 18 games out for Atari and one—Pitfall, and adventure game in which the player has to maneuver "Harry" through the jungle watching out for scorpions, crocodiles and other hazards—for Intellivision. Pitfall is also available in the Atari format.

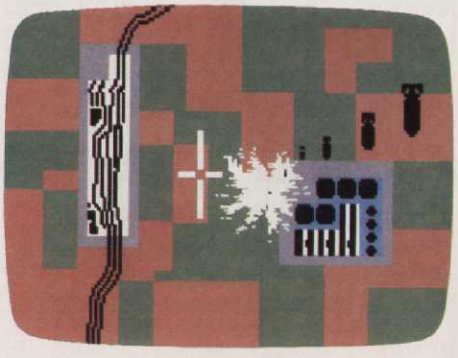
Activision's games reflect the dynamic nature of its president Jim Levy who puts the premium on creativity. All the games are very original—no arcade titles here and Levy sees no need to acquire any in the immediate future—and all extremely imaginative. The graphics, incidentally, are excellent.



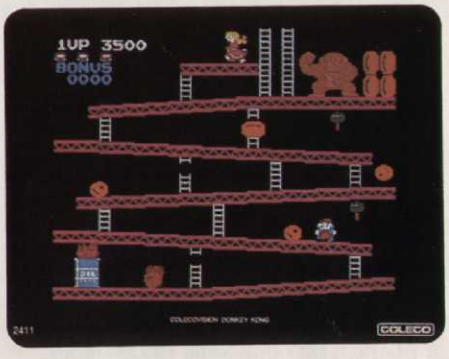
Kaboom, by Activision



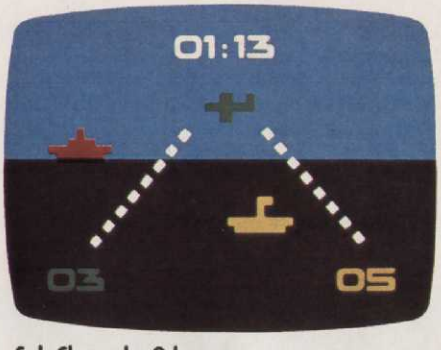
Baseball, by Astrocade



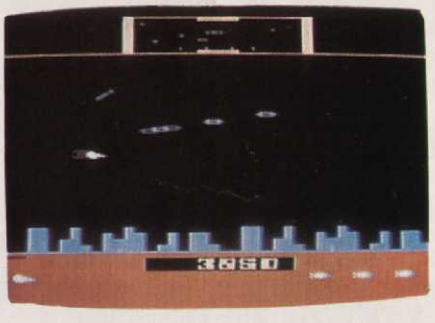
B-17 Bomber, by Intellivision



Donkey Kong, by Coleco



Sub Chase, by Odyssey



Defender, by Atari

IMAGIC

Imagic has about seven games for the VCS, including the popular Demon Attack, where swarms of cosmic birds swoop down from space. In one of its newer games, Cosmic Ark, the player has to capture reluctant aliens from other worlds in order to re-populate a planet.

Cosmic Ark is a continuation of the second installment, as it were, to one of Imagic's other games, Atlantis. After the player loses (and the player must always lose eventually, curses), he rejoins the characters from Atlantis in Cosmic Ark. They are the ones flying the spaceship that is picking up the reluctant aliens.

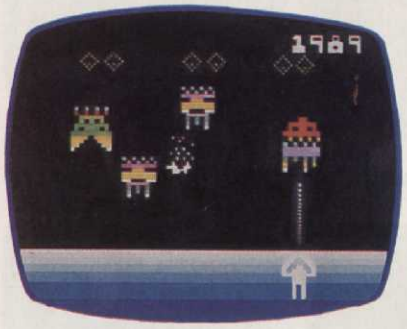
In addition, Imagic has five titles for Intellivision—including Demon Attack and MicroSurgeon, in which the player travels through the human body via the circulatory and cures illness. (It's cuter, really, than it sounds) And the company will have at least one (Demon Attack) for the Odyssey² system by January of 1983, making it the first independent company to produce games for three systems.

It would be hard to pinpoint Imagic's strength. It's got excellent graphics and you can see that a lot of attention has been paid to detail—for example, the body in MicroSurgeon is anatomically correct and the graphics of the face are superb, with teeth and everything. And the games are eminently playable—within just a few months of its release, Demon Attack became one of the top ten.

GAMES BY APOLLO

Games by Apollo currently has six Atari compatible cartridges and says its got future plans for Intellivision games as well, but so far no dice. Among the games is Skeet Shoot, a rather boring game about shooting skeet. In some of the first releases of this game, a flaw which caused the screen to roll was found. Apollo admitted that because it was in such a big rush

to get product to market it didn't pay enough attention to the program. It did accept returns of flawed copies, replacing them with sound ones. After Skeet Shoot came Space Chase, Space Cavern and several others including its most recent one, Lost Luggage, in which a baggage claim



Space Cavern, by Apollo

eral others including its most recent one, Lost Luggage, in which a baggage claim carousel goes wild and flings bags all over the airport.

Apollo's games, so far, are somewhat ordinary in playability but the graphics aren't bad—in Lost Luggage, for example, a plane comes in for a landing from the upper right hand corner and taxis to a stop in the upper left, so attention is paid to detail—and there have been no more flaws in the programs.

Other companies making games for the Atari are Telesys (which has a game called Fast Food in which the player ingests all sorts of junk food flying across the screen and racks up calories instead of points), Tigervision (which owns the rights to several of the more popular computer games, such as Jawbreaker), Twentieth Century-Fox, Spectravision (whose game Planet Patrol goes from daylight to nighttime to daylight during the course of the game, Comma-Vid (with two games, Cosmic Swarm and Room of Doom), Data Age, and US Games (which was recently acquired by Quaker Oats and is now the first company with high resolution breakfast cereal compatible with the Atari VCS).

The list is by no means complete and just about any list given wouldn't remain complete for very long. New companies spring up faster than unwanted blemishes on pron night. So I recommend that you run out and get your system as quickly as possible before you have to narrow your choice down from an even higher number of companies. (And before I am forced to write an update on this article.) Thank you.

Activision

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
BARNSTORMING	Action	1	A	easy	B	31.95
BOXING	Sport	1-2	C	"	C	22.95
BRIDGE	Sport	1	B	hard	B	31.95
CHECKERS	Sport	1-2	C	med.	C+	22.95
CHOPPER COMMAND	War	1	A	easy	A	31.95
DRAGSTER	Drive	1-2	A	med.	B	22.95
FISHING DERBY	Sport	1-2	A	easy	B	22.95
FREEWAY	Strat.	1-2	B	"	B	22.95
GRAND PRIX	Drive	1	A	"	A	31.95
ICE HOCKEY	Sport	1-2	A	"	A	31.95
KABOOM	Action	1-2	A	"	A	22.95
LASER BLAST	Space	1	B	"	C	22.95
MEGAMANIA	Space	1-2	B	"	B+	31.95
PITFALL	Advent.	1	A	med.	A	31.95
SKIING	Sport	1	B	easy	A−	22.95
STAMPEDE	Action	1	B	"	A	22.95
STAR MASTER	Space	1	A	hard	A	31.95
TENNIS	Sport	1-2	A	easy	A	22.95

All Activision games are made for the Atari VCS. Stampede and Pitfall will be available for Intellivision in September and November respectively.

Apollo

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
LOCHJAW	Strat.	1-2	B	easy	B	31.95
LOST LUGGAGE	Action	1-2	A	"	B	"
RAQUETBALL	Sport	1-2	B	hard	B+	"
SKEET SHOOT	Sport	1-2	D	easy	D	22.95
SPACE CAVERN	Space	1-2	B	"	B+	31.95
SPACECHASE	Space	1-2	D	"	D	"

All Apollo games are made for the Atari VCS.

Astrocade

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
AMAZING MAZE	Maze	1-2	B	easy	B+	24.95
ASTRO BATTLE	Space	1	A	"	A	29.95
ARTILLERY DUEL	Action	1-4	B	"	B	34.95
ASTROCADE PINBALL	Action	1-4	A	"	A+	29.95
BASEBALL/ HOCKEY/TENNIS	Sport	1-2	B	"	B	29.95
BIORHYTHM	Learn.	1-2	B	med.	B+	29.95
BLACKJACK/ POKER	Gaming	1-4	C	"	C	29.95
BRICKYARD/ CLOWNS	Action	1-4	B	easy	B	29.95
CONAN THE BARBARIAN	Strat.	1-2	B	"	C	34.95
COSMIC RAIDERS	Space	1-2	A	"	B+	34.95
CREATIVE CRAYON	Learn.	1-2	A	"	A	59.95
DOGPATCH	Action	1-2	B	"	B+	29.95
FOOTBALL	Sport	2-4	B	"	A−	29.95
GALACTIC INVASION	Space	1-4	A	"	A	29.95
GRAND PRIX	Drive	1-2	B	"	B+	29.95
THE INCREDIBLE WIZARD	Advent.	1-2	A	med.	A	34.95
LETTER MATCH	Learn	1-4	B	easy	B+	29.95
MUSIC MAKER	Learn	1-2	B	med.	A	59.95
PIRATE'S CHASE	Action	1-2	B	easy	B−	29.95
RED BARON	War	1-2	B	med.	B+	29.95
SEA WOLF	War	1-2	B	easy	B	24.95
SOCCER	Sport	1-4	B	med.	B	34.95
SPACE FORTRESS	Space	1-4	A	easy	B+	29.95
SOLAR CONQUEROR	Space	1-2	B	"	B+	34.95
SPEED MATH	Learn.	1-2	B	"	B	19.95
STAR BATTLE	Space	1-2	B	"	C	24.95
ZZZAP/DODGEM	Drive	1	B	"	B−	24.95
BOWLING	Sport	1-4	B	"	C	29.95

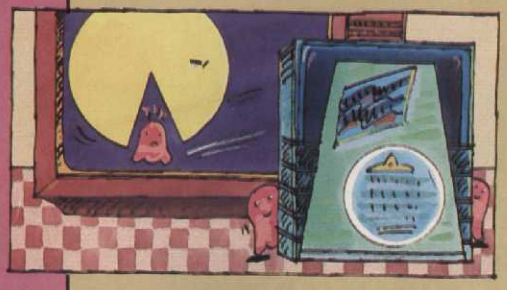
All Astrocade games are made for the Astrocade system. Many of the cartridges have multiple games in them.

Atari

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
BRAIN GAMES	Learn.	1-2	B	easy	A	22.95
BREAKOUT	Action	1-2	A	"	A	22.95
ADVENTURE	Advent.	1	A	hard	A−	31.95
AIR-SEA BATTLE	War	1-2	B	easy	B	22.95
ASTEROIDS	Space	1-2	B	"	B+	37.95
BACKGAMMON	Sport	1-2	B	med.	A−	26.95
BASIC PROGRAMMING	Learn	1	B	"	B	26.95
BASKETBALL	Sport	1-2	B	easy	A	22.95
BERZERK	Action	1	B	"	A	31.95
BOWLING	Sport	1-2	B	"	C	22.95
CANYON BOMBER	Strat.	1-2	B	"	B	22.95
CASINO	Gaming	1-4	B	med.	A−	31.95
CIRCUS ATARI	Action	1-2	A	easy	B−	26.95
CODEBREAKER	Learn.	1-2	B	hard	B+	22.95
CONCENTRATION	Learn	1-2	C	med.	B	22.95
DEFENDER	Space	1-2	A	"	A	37.95
DODGE 'EM	Maze	1-2	B	easy	B−	22.95
FOOTBALL	Sport	2	C	"	D	12.95
GOLF	Sport	1-2	C	"	D	22.95
HANGMAN	Learn.	1-2	B	"	B+	22.95
HAUNTED HOUSE	Advent.	1	B	med.	A−	26.95
HOME RUN	Sport	1-2	C	"	D	12.95
HUMAN CANNONBALL	Strat.	1-2	C	"	C	12.95
INDY 500	Drive	1-2	B	easy	C+	39.95
MATH GRAN PRIX	Learn.	2	C	"	B	22.95
MAZE CRAZE	Maze	2	B	"	A−	26.95
MISSILE COMMAND	Space	1-2	A	"	A+	31.95
NIGHT DRIVER	Drive	1	B	"	A−	26.95
OTHELLO	Strat.	1-2	B	med.	B+	22.95
OUTLAW	Action	1-2	C	easy	C	22.95
PAC-MAN	Maze	1-2	C	"	B−	34.99
PELE'S SOCCER	Sport	1-2	B	"	B−	31.95
SKY DIVER	Action	1-2	B	"	C	22.95
SLOT RACERS	Action	2	B	"	C−	22.95
SPACE INVADERS	Space	1-2	A	"	A	31.95
SPACE WAR	Space	1-2	B	"	C	12.95
STREET RACER	Drive	1-4	B	"	B	12.95
SUPER BREAKOUT	Action	1-2	A	"	B+	31.95
SUPERMAN	Advent.	1-2	A	hard	A−	31.95
SURROUND	Strat.	1-2	B	easy	B+	12.95
3-D TIC TAC TOE	Start.	1-2	B	med.	B	22.95
VIDEO CHECKERS	Sport.	1-2	B	easy	B	22.95
VIDEO CHESS	Sport.	1	B	med.	A	26.95
VIDEO OLYMPICS	Action	1-4	B	easy	B+	22.95
VIDEO PINBALL	Action	1-2	B	"	A−	31.95
WARLORDS	Strat.	1-4	A	"	A	31.95
YAR'S REVENGE	Space	1-2	A	"	A	31.95

All Atari games are made for the Atari VCS.

SOFTWARE REPORT CARD



Coleco

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
CARNIVAL*	Action	1-2	A	easy	A	30.00
COSMIC AVENGER*	Space	1-2	A	"	A	"
DONKEY KONG*	Strat.	1-2	A	med.	A	"
FIDELITY'S CHESS***	Sport	1-2	A	"	B+	"
FIDELITY'S HORSE RACING***	Sport	1-2	A	"	B	"
HEAD TO HEAD BASEBALL***	Sport	1-2	B	"	B+	"
HEAD TO HEAD FOOTBALL***	Sport	1-2	B	"	B+	"
KEN USTON'S BLACKJACK/ POKER***	Gaming	1-2	A	"	A−	"
LADY BUG*	Maze	1-2	A	easy	B−	"
MOUSE TRAP*	Maze	1-2	A	"	A	"
MR. TURTLE***	Strat.	1-2	A	"	NA	"
RIP CORD**	Strat.	1-2	A	"	NA	"
SIDE TRAK**	Maze	1-2	A	"	NA	"
SKIING***	Sport	1-2	A	"	A−	"
SMURF EDUCATIONAL GAME***	Learn.	1-2	B	"	B+	"
SMURF RESCUE GAME*	Strat.	1-2	A	"	B+	"
SPACE FURY	Space	1-2	B	"	NA	"
SPECTAR***	Maze	1-2	A	"	NA	"
TUNNELS AND TROLLS***	Advent.	1-2	A	med.	A	"
TURBO*	Drive	1-2	A	easy	A	"
VENTURE*	Advent.	1-2	A	"	B+	"
ZAXXON*	Space	1-2	A	med.	A	"

Any game made for the Atari VCS may be played on the ColecoVision system if adapter is purchased

*Made for Atari VCS, Intellivision, ColecoVision.

**Made for Intellivision and ColecoVision.

***Made for ColecoVision.

NA (not available for testing)

Imagic

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
ATLANTIS	Space	1-2	B	easy	B	31.95
COSMIC ARK	Space	1	B	"	B	31.95
DEMON ATTACK	Space	1-2	A	"	A	31.95
FIRE FIGHTER	Strat.	1	C	"	C	24.95
MICRO SURGEON	Strat.	1	A	"	B+	31.95
RIDDLE OF THE SPHINX	Strat.	1-2	B	med.	B	31.95
STAR VOYAGER	Space	1-2	B	easy	A	31.95
SWORDS AND SERPENTS	Advent.	1-2	B	med.	A	31.95
TRICK SHOT	Sport	1-2	A	"	A	31.95
BEAUTY AND THE BEAST	Strat.	1	A	med.	B	31.95

For Atari VCS—Cosmic Ark, Fire Fighter, Riddle of Sphinx, Star Voyager and Trick Shot. For Atari and Intellivision—Atlantis and Demon Attack. For Intellivision only—Micro Surgeon, Swords and Serpents, and Beauty and the Beast. For Odyssey—Demon Attack.

Intellivision

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
ABPA BACKGAMMON	Sport	1-2	A	med.	B+	19.00
ADVANCED DUNGEONS & DRAGONS	Advent.	1	A	hard	A	39.00
ARMOR BATTLE	War	2	A	easy	A−	30.00
ASTROSMASH	Space	1	B	"	B−	30.00
AUTO RACING	Sport	1-2	B	hard	A−	30.00
BOXING	Sport	2	A	"	B	30.00
CHECKERS	Sport	1-2	B	med.	B	14.00
FROG BOG	Action	1-2	A	easy	B	19.00
HORSE RACING	Sport	1-2	A	med.	C	24.00
ROULETTE	Gaming	1-2	A	"	B+	14.00
LOCK 'N CHASE	Action	1-2	B	"	B−	39.00
MAJOR LEAGUE BASEBALL	Sport	2	A	hard	A+	30.00
MATH FUN	Learn	1-2	A	easy	B+	14.00
NASL SOCCER	Sport	2	A	"	A−	24.00
NBA BASKETBALL	Sport	2	A	med.	A−	30.00
NFL FOOTBALL	Sport	2	A	hard	A	30.00
NHL HOCKEY	Sport	2	A	easy	A	24.00
NIGHT STALKER	Action	1	A	med.	B	39.00
PBA BOWLING	Sport	1-4	A	"	C	30.00
PBA GOLF	Sport	1-4	A	hard	A+	24.00
REVERSI	Strat.	1-2	B	med.	B	19.00
ROYAL DEALER	Gaming	1	A	"	B+	19.00
SEA BATTLE	War	2	A	hard	A	39.00
SNAFU	Maze	1-2	A	med.	B	30.00
SPACE ARMADA	Space	1	B	"	C	30.00
SPACE BATTLE	Space	1	A	"	B	30.00
STAR STRIKE	Space	1	A	"	B−	39.00
SUB HUNT	War	1	A	"	B+	30.00
TENNIS	Sport	2	A	hard	B	24.00
TRIPLE ACTION	Action	2	B	"	B	24.00
TRON DEADLY DISCS	Action	1	B	med.	B	30.00
TRON MAZE-A-TRON	Action	1	B	"	B	30.00
U.S. SKI TEAM SKIING	Sport	1-6	A	"	B	30.00
UTOPIA	Strat.	1-2	A	hard	A	13.00
WORD FUN	Learn	1-2	A	easy	A	14.00

All Intellivision games are made for the Intellivision system.

Odyssey

	Type of game	Number of players	Graphics/Sound	Difficult to learn?	Overall rating	$
ALPINE SKIING	Sport	1-2	B	"	C	"
ARMORED ENCOUNTER	War	2	C	med.	B	"
BASEBALL	Sport	2	B	"	B	"
BASKETBALL	Sport	2	B	easy	B	"
BLOCKOUT	Action	1-2	B	"	A−	"
BOWLING	Sport	1-4	C	"	D	"
CASINO SLOT MACHINE	Gaming	1-4	B	"	B	"
COMPUTER GOLF	Sport	1-2	C	"	F	"
COMPUTER INTRO	Learn	1	B	med.	B	"
CONQUEST OF THE WORLD	Strat.	2-6	B	hard	A+	49.95
COSMIC CONFLICT	Space	1	A	med.	A	22.95
ELECTRONIC TABLE SOCCER	Sport	1-2	B	"	A	"
FOOTBALL	Sport	2	B	"	B	"
HELICOPTER RESCUE	Advent.	1	B	easy	C	"
HOCKEY/SOCCER	Sport	2	C	"	D	"
INVADERS FROM HYPERSPACE	Space	2	A	"	B	"
ALIEN INVADERS PLUS	Space	1	C	easy	C−	22.95
K.C.S CRAZY CHASE	Maze	1-2	A	"	A−	"
LAS VEGAS BLACKJACK	Gaming	1-2	B	med.	B	"
MATCHMAKER	Learning	1-2	B	easy	B	"
MATH-A-MAGIC	Learning	1	C	"	A	"
MONKEYSHINES	Maze	1-3	B	"	A	32.95
PACHINKO	Action	1-2	B	"	B+	22.95
PICK AXE PETE	Strat.	1-2	B	"	B	32.95
POCKET BILLIARDS	Sport	2	C	med.	C	14.95
THE QUEST FOR THE RINGS	Strat.	1-3	B	hard	A	49.95
SHOWDOWN IN 2100	Action	1-2	C	easy	B−	22.95
TAKE THE MONEY AND RUN	Strat.	2	B	med.	B+	14.95
THUNDERBALL	Action	1-4	B	easy	C	22.95
UFO	Space	1	B	"	C	32.95
VOLLEYBALL	Sport	1-2	C	"	D	22.95
WAR OF NERVES	Action	2	B	"	A−	22.95
WALL ST. FORTUNE HUNT	Strat.	1-?	B	hard	A	49.95

All Odyssey games are made for the Odyssey system.

Stand Up For Video Games!

Not everybody likes video gaming like we do. Some frightened parents all over the country believe video games cause bad grades in school, drug abuse and juvenile delinquency. And these people are working to rid their communities of arcades.

If you think video games are fun and you don't want to see your local arcade closed down, you should make your feelings known where it counts—in Washington. Tear out or photocopy this page and send it to our representatives in Congress. The only way they'll know what you want is if you tell them!

Dear Legislator,

In recent months, many bills have been introduced that would severely limit or ban video game machines. I feel that video games are a positive contribution to society, and as my representative, I ask you to vote in favor of video games when such legislation is introduced.

_____

(your name)

_____

(your state)

SEND TO: U.S. HOUSE OF REPRESENTATIVES, THE CAPITOL, WASHINGTON, D.C. 20515.

CALENDAR

What's In Store For You?

AUGUST

Parker Brothers—**The Empire Strikes Back** and **Frogger** (both for Atari VCS)... Odyssey's "The Voice" module should sell for $99. First voice cart—**S.I.D. The Spellbinder** ...U.S. Games—**Word Zapper** and **Towering Inferno** (for Atari VCS)...Tigervision—**Threshold** and **King Kong** (for Atari VCS)...Atari—**Berzerk** ...August 11th is deadline for the Mattel **Astrosmash** entries.

SEPTEMBER

20th Century Fox—First four games will be **Beany Bopper, Deadly Duck, Worm War I** and **Fast Eddie** (all for Atari VCS)...Odyssey—**Nimble Numbers N.E.D.** and **Smithereens**...U.S. Games—**Commando Raid**...Atari's "Supergame" 5200 released at $300-$350...Activision—**Pitfall** and **Megamania**... **Astrosmash** Shootoff on the 11th...Apollo—6 new games ...Intellivision—**Advanced Dungeons and Dragons**... Tigervision—**Jawbreaker** and **River Patrol** (for Atari VCS)... Parker Brothers—**Spiderman, Amidar, Super Cobra** and **Reactor** (all for Atari VCS).

OCTOBER

Imagic—**Beauty And The Beast** and **Microsurgeon** (both for Intellivision)... Odyssey—**K.C.'s Crazy Chase** ...Mattel's M System debut (games for Atari VCS)—**Frogs and Flies, Lock 'N Chase, Dark Cavern, Sea Battle, Armor Ambush**, and **Tron: Deadly Discs**...Astrocade—**Artillery Duel, Soccer/Dribbling, Bowling, Cosmic Raiders, Solar Conqueror,** and **Pirate's Chase**...Atari—**Earthworld, Fail Safe,** and **Baseball** (new version)... U.S. Games—**Maze Chase, Squeeze Box,** and an untitled game...General Consumer Electronics' Vectrex Arcade System will sell for $229.

NOVEMBER

U.S. Games—**Space Jockey** and **Guardians of Treasure**... Atari—**Demons to Dragons, Volleyball,** and **Frog Pond**... Imagic—**Demon Attack** available for Atari 400 computer—Parker Brothers—**Sky Skipper.**

DECEMBER

International Amateur Video Games Championships take place at the Broadmoor Hotel in Colorado Springs, Colorado ...Apollo—six new games... Atari—**Raiders of the Lost Ark** and **Football** (new version)...Activision—**Pitfall** and **Stampede** (both for Intellivision)...CBS—**Wizard of WOR** and **GORF** (for Atari VCS).

JANUARY

Commodore—"Max" machine released...U.S. Games—**Weird Bird** and **Gopher Attack.**

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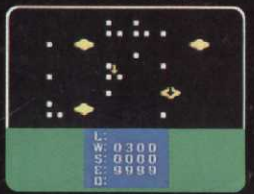

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